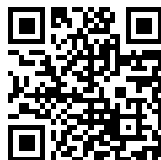

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FIVE YEARS AT PANAMA.

TO BE ISSUED.

BY THE SAME AUTHOR

DE LESSEPS' LAST DITCH,
ITS FACTS, FIGURES AND FICTIONS; *illustrated.*
A Sequel to "Five Years at Panama."

FROM OCEAN TO OCEAN, OR ACROSS
NICARAGUA; *illustrated.*

FIVE YEARS AT PANAMA

THE TRANS-ISTHMIAN CANAL

BY

WOLFRED NELSON, M.D.

CORRESPONDING MEMBER NATURAL HISTORY SOCIETY, MONTREAL



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DEDICATION.

TO FRED.

THIS, THE FIRST OF A SERIES OF WORKS ON TRAVEL IN
FOREIGN COUNTRIES, IS AFFECTIONATELY INSCRIBED, AS A
SOUVENIR OF OUR RESIDENCE AT PANAMA, BY

THE AUTHOR.

LIST OF ILLUSTRATIONS.

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PREFACE.

IN his preface the author usually attempts to explain why he has had the courage to inflict a new work on a long suffering public. He instinctively feels that he owes that public an apology, and he proceeds to make it with any materials at his disposal. It is either that his book fills a "want long felt," that the matter is of paramount importance, or some equally good personal reason. That the matter is his "pet fad" seldom appears, at least, in the preface.

Deferring to this time-honored custom, and having some sense of culpability, I in turn must explain my relationship with what follows. For many years I have been, and am still, an accredited correspondent of *The Gazette*, of Montreal, Canada, a paper founded in 1779. I may also state that it was the very first foreign paper to establish a resident correspondent at Panama. Quite apart from endless columns of matter on things Isthmian—such as the Canal, the earthquakes, etc.,—I have, since leaving the Isthmus, written a series of sketches on travel in Mexico, Central and South America and the West Indies. Apropos of Panama—in a rash moment—I said to a friend, "I shall write a book on Panama." I

did not fully realize my rashness until later, when friends near and distant asked, "When is the book coming out?" For a long time I was as fertile in my excuses, as M. de Lesseps is in his for the delay in opening the Panama Canal. Unlike that Great Undertaker, I had not committed myself to a specific day, month or year. Mine was the diplomatic *mañana*, of the Spaniard, or that morrow that seldom dawns. Later, my friends returned to the charge; then they became impatient, and finally, I really fear, incredulous, as to whether I was equal to my promise; their urgency was such that I felt that it had to be a book or a "breach of promise case."

My residence of five years at Panama—1880 to 1885, as a practitioner of medicine, together with my knowledge of Spanish and French, gave me ample facilities for studying the natural and unnatural in my surroundings. Since I gave up my residence on the Isthmus I have made it four visits, the last two in March and April respectively of this year, when I made the negatives furnishing the illustrations for this book.

While there as the resident correspondent of *The Gazette*, I had to keep alive to all matters of interest to the general public. During my absences from the Isthmus I have received much reliable information relative to it and the Panama Canal, the greater part of it from official sources. This I believe justifies me in thinking that my book is brought down to date.

In the following pages I have tried to include all that

I think will be of interest to the general public, and have essayed to give my readers a clear idea of what a pains-taking visitor may note both at old and modern Panama. My sketch of life among the masses I trust may prove interesting, if not novel. The upper classes in all countries are much the same, in that they are, in a degree, equally intelligent and equally pleasing.

I have dwelt on the past of the Isthmus, have described its present, and have made bold to forecast its future. If my frankness ruffles some sensitive critic in Colombia, I may safely anticipate his strictures by stating that the value of his critique must depend upon my truthfulness. I await it with absolute complacency. Those who write laudatory articles or books make a transparent bid for popularity. Woe to the man who has the courage of his convictions, and who dares to publish the truth as he understands it.

What follows is largely in the nature of a personal narrative; where it is otherwise I have cited my authorities.

As an old time student of sanitary science, familiar with its rapid development of late years, I earnestly hope that the most powerful machine of modern times, whose fire is smokeless—the press—will agitate against the disgraceful and, to my mind, criminal methods that obtain at Panama in the systematic neglect of burial of the dead, until the custom has become a thing of the past. I state without fear of contradiction, and with all the emphasis that our mother tongue conveys, that the

Isthmus of Panama is a disease producing and disease distributing centre. Why should it be allowed to graft small-pox and yellow fever—as it has done—on communities near and distant? Such practices are a disgrace to our civilization and a constant menace to all countries doing business with, or by way of, the Isthmus of Panama.

The arrangement of the subject matter may seem novel, but I wrote two-thirds of my book before introducing what may be deemed wearisome reading. I regret that as a faithful chronicler of events, I cannot condense this into one page, and put that just inside the last cover.

I make no claim for my first attempt at book-making, save that it reflects my views, and that it is a faithful and accurate account of the subjects presented.

WOLFRED NELSON.

ASTOR HOUSE, N. Y.,
October 10th, 1888.

FIVE YEARS AT PANAMA.

CHAPTER I.

DEPARTURE FOR COLON, ISTHMUS OF PANAMA—AN AMUSING INCIDENT—WATLING'S ISLAND—CROOKED ISLAND PASSAGE—THE ISLAND OF NAVASSA—A GLIMPSE OF CUBA—APPROACH TO COLON.

AT high noon on a bright, sunny May day in 1880, I stood on the Canal Street pier of the Pacific Mail Steamship Company ready to embark for California by way of the Isthmus of Panama. The vessel soon got under way, and we rapidly passed through a network of steamers and shipping, past old Trinity, Castle Garden, and the thousand and one sights familiar to all who know New York. There were a good many saloon passengers, who in an incredibly short time were domiciled with their many belongings in the clean, spacious staterooms of the *Colon*. The voyage was fairly begun, and eight days of it were ahead of us. Life on all ocean steamers is much the same. To old travellers the meals are matters of the greatest importance; next a soft mattress on which to come to anchor at night to think over the events of the day, and speculate on what the breakfast will consist of. One's comfort at sea depends greatly on whether he is alone or doubled up with others, in the forced intimacy of two or three in a room. If the other fellows are old travellers and jolly, it does very well. Generally they are not, and will look at each other as much as to say, "By Jove! what are *you* doing in here?" The more educated they are, the more aggressive they are when unaccustomed to travelling. They bear a strong resemblance to strange curs turned loose in the same enclosure

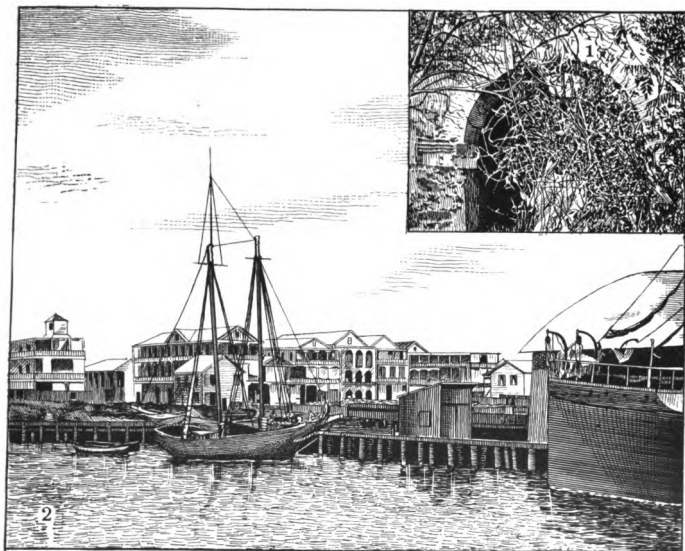
—for they would rather have a row than otherwise. It is usual for a great many to seek retirement in their staterooms just as soon as the vessel begins to feel “lumps.” The victims of *mal de mer* are uncanny to the eye, unpleasant to the ear, and wholly disappointing for sentimental or artistic effects.

An accident to two of our fellow passengers excited a great deal of merriment. There was a fat, a very fat and jolly broker from Wall Street, and a very tall and slight civil engineer, both on their way to the Pacific Coast. They occupied the same stateroom. The big fat fellow could just get into his berth—of course it was the lower one—which he filled completely. The six-foot-two engineer slept above. During the soft, stilly hours of the dogwatch three agonizing cries of “Steward!” were heard, coming from the fat man. A female in her nightgown rushed into the saloon, anxiously inquiring if the vessel were going to the bottom. She was ignored and the cause of the cries investigated. The long man’s berth had given way, and he had fallen into the break after the manner of a partly closed penknife. This in itself would have been of small moment, had not his further descent been checked by his midship section resting on the stomach of the Wall Street broker, who naturally resented such liberties. Long-legs was jammed in the break and the fat chap was hemmed in. Assistance dislodged the civil engineer, and peace and order were restored.

The service on the Pacific Mail Steamers is very good. All told I have made eleven voyages with them on the Atlantic and Pacific, and measuring my experience on their vessels by many voyages in others, I can safely say that there are no better officered or better kept ships afloat.

The first land we got a glimpse of was Watling’s Island or San Salvador (Holy Saviour), the first land sighted by Christopher Columbus during his memorable voyage in October, 1492.*

* Washington Irving’s “Life and Voyages of Columbus.”

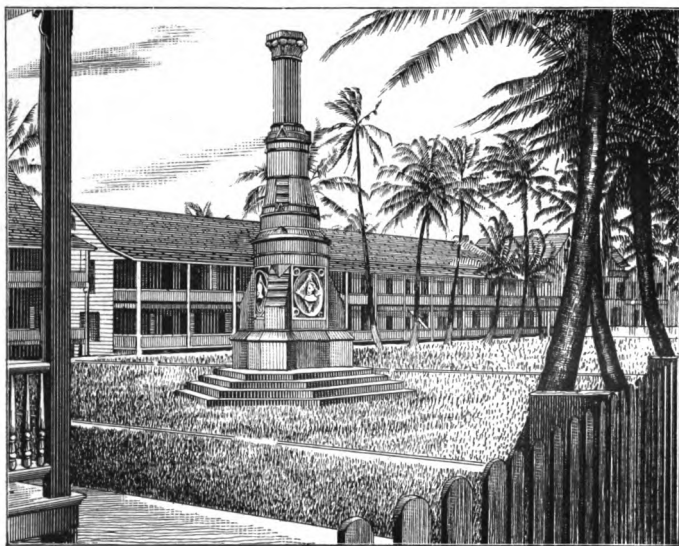


1. ARCH; RUINS OF ST. ANASTASIUS, OLD PANAMA.
2. FRONT STREET, COLON, ISTHMUS OF PANAMA.

San Salvador is a small island, one of the Bahamas. The latter is a chain of islands and islets belonging as every one knows to Old England. We passed through Crooked-Island Passage, a stretch of the sea, between some of the islands of this group. On one of them there is a lighthouse. It is customary for steamers to leave something for the light-keeper, in the shape of a few supplies and newspapers, to help him fill in his time. It must be a lonely place. The island of Navassa has attained some fame owing to its deposits of guano. It is largely shipped to the Southern United States. The next land was the eastern end of Cuba, "The Queen of the Antilles," where we passed Cape Maisi near its stone lighthouse. Some ninety-four miles to the east lies Hayti, "The Black Republic," as it has been aptly named by Sir Spenser St. John in his admirable book. What with eating, sleeping, walking, reading and chatting, the time passed away rapidly, and getting ready to debark at Colon was next in order. Having been told that we should make land just before daybreak, I was up shortly after half-past four, and getting on deck before the gray of the earliest light gives place to day, I saw in the distance mountains whose bases were enveloped in haze. From Captain Griffin, whom I shall ever remember with pleasure, I learned that they were the Andes of South America. As the good ship stood on her way, to my astonishment a delightful fragrance filled the air. It was early summer on the Isthmus; abundant rains had fallen, all nature was smiling, and the odor was from millions of wild flowers and flowering trees. Such of my readers as are familiar with books on travel among the Spice Islands will recall the fact that the crews of ships in those seas, fifty to a hundred and fifty miles from land have noticed the same delightful fragrance.

Gradually daylight came. The sun rose higher in the sky, the haze cleared away, and we entered the Bay of Limon, or Navy Bay, as some charts term it. Straight ahead of us was Colon. The island takes its name from Columbus, the word Colon being the Spanish equivalent

for Colombo, the name of the great discoverer. He was an Italian by birth, born in the city of Genoa, and he it was who named Navy Bay. Before us were many piers, steamers, ships, and the usual surroundings of ports, flanked and backed by palms, and back of the whole a dense mangrove swamp. All were of that peculiar tint of light green to be seen only within the Tropics.



**MONUMENT TO STEPHENS, CHAUNCEY, AND ASPINWALL, COLON,
ATLANTIC SIDE OF ISTHMUS.**

CHAPTER II.

COLON, THE ATLANTIC CITY OF THE ISTHMUS—SITUATION—
CLIMATE—SEASONS—HEALTH—MT. HOPE OR MONKEY
HILL.

COLON "as is", is not Colon "as was." The Colon of May 29, 1880, when I landed there, was totally destroyed by fire on the 31st of March, 1885, during a revolution on the Isthmus, involving a loss of \$12,000,000. It was the only settlement on the island, which on some charts is called Manzanillo. It is of a coralline formation, built by those indefatigable toilers of the sea. It is three-quarters of a mile long by about one-third of a mile wide, with a surface slightly above the sea level, perhaps as much as three feet; and is connected with the Spanish Main by a railway embankment. The city of Colon is just 1980 miles from the city of New York. Its main street faces the railway connecting it with Panama on the Pacific. In 1880 no particular class of architecture called for remark. Two buildings with Moorish arches above and below were suggestive of things Spanish. The majority of the buildings or shops were wooden, and these were swept away in the fire. The place was hot and sickly in the dry or so-called healthy season, and was death-dealing and pestiferous in the wet season, the latter lasting for nearly eight months of the twelve. The centre of the city was a lagoon, houses being built all around and over it. Practically it had no outlet, or such a small one as to be of no use in changing its foul, fermenting, death-dealing waters. In front of the main street were the piers of the various steamship companies.

The pleasant part of Colon was called "The Beach," well away from the city and that lagoon. Scattered along this were many charming and comfortable homes

occupied by officers of the Panama Railroad, the steamship people, and others. While a resident of Panama I always deemed it a treat to go to the Colon side of the Isthmus during the grand moonlight nights of the dry season and walk along that pretty beach, there to watch the huge rollers as they came in from the vast Atlantic, raise their lofty crests to meet the outer coral reef, break, and cover the shore with silvery foam. The town had and has a very pretty church that was built by the Panama Railroad Company after they had completed the railroad. It is a gothic edifice of classic proportions, built of dark stone from the quarry at Bohio Soldado on the line of the Panama Railroad. I have been informed that it was consecrated by the late Bishop Potter, of New York. Beyond the church and on the common facing the famous old Washington—an early day edifice—there is a monument or shaft that likewise was built by the Panama Railroad people. Its base bears the names of Aspinwall, Stephens and Chauncey, the pioneers and founders of the Panama Railway. Within the enclosure facing the Washington there is a magnificent natural growth of cocoanut palms. They are without doubt the most graceful trees to be seen within the tropics. Captain Griffin, of the *Colon*, told me that there were over one hundred varieties in the state of Panama.

Beyond the church is the Panama Railway hospital, facing a dense growth of the water loving mangrove. Its rear looks out on the sea.

The land side of the island was occupied by the working classes, a thoroughly cosmopolitan lot. They were of all kinds,—black, white, yellow,—native and foreign.

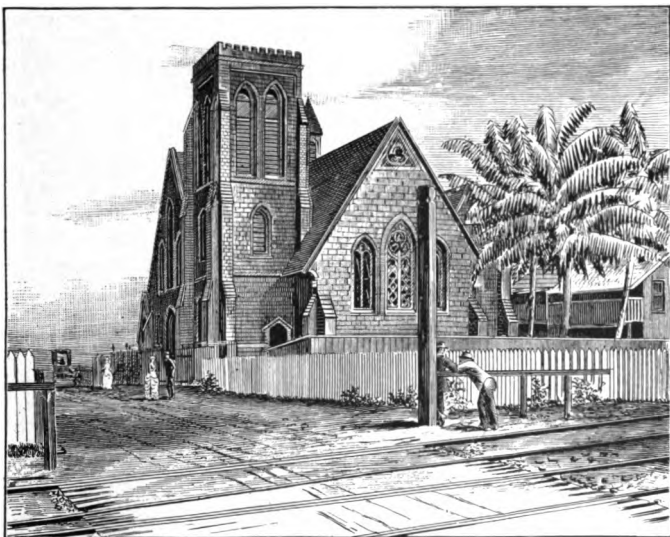
Before dismissing Colon let me revert to its climate once more, as climate means health or sickness. Upon getting to Panama the Dean of the Medical Faculty, a Colombian, neatly divided the seasons as follows. He said to me: "First you have the wet season, lasting from about the 15th of April to the 15th of December, when people die of yellow fever in four or five days. Next you have the dry or healthy season, from December 15,

to April 15, when people die of pernicious fever in from twenty-four to thirty-six hours." Five years as a practitioner of medicine at Panama amply confirmed his views, and it is the best divison of the seasons that I know of. And apropos of climate, sickness and dying, a few words about Mount Hope, or Monkey Hill; as the latter has become the final resting-place of thousands. It is the cemetery on the Colon side of the Isthmus. Mount Hope is its baptismal name, and "Monkey Hill" is its everyday appellation. It is reached by rail. Funeral trains are as much an institution as passenger or goods trains. Since the advent of De Lesseps' canal men on the 28th day of February, 1881, thousands upon thousands have been buried there. During two seasons of epidemic it is said that the burials averaged from thirty to forty per day, and that for weeks together.

CHAPTER III.

TRIP ACROSS THE ISTHMUS—SCENES AND INCIDENTS—A TROPICAL DOWNPOUR—ARRIVAL AT PANAMA—A COLUMBIAN 'BUS—THE GRAND HOTEL.

AT 1 P. M. we stepped from the street into the train *en route* for Panama. To the majority of us all it was novel. Leaving Colon we crossed the embankment leading to the main land, or the Spanish Main of early writers. On our right there was an immense mangrove swamp, one mass of green; beyond the swamp was a little hill, and then more low land. Later we passed Monkey Hill on our left. The tropical jungle became thicker and thicker; in places it was so thick as to be absolutely impassable. Here and there were stretches of bananas. The banana plant might be taken for a young tree by the inexperienced. It has a thick, fleshy stalk with broad, wide leaves, and the fruit hangs down in huge bunches. These banana patches, as they are termed, were interspersed with palms and other vegetation. Here and there a native rancho or hut could be seen on the hillsides. It was not long before we were at Gatun. To our right we got a glimpse of the river Chagres; a peaceful stream in the dry season, but often during the long, wet season of the Isthmus a huge, destructive volume of water. The railway there follows the left bank of the river as you approach the Pacific. Opposite the small station and just across on the opposite bank was the Indian hamlet of Gatun, properly so called. In the foreground were innumerable canoes, hollowed out of logs, drawn up on the beach. In those days Gatun was a mere collection of native huts built of bamboos thatched with palms or oleanders. It was a wholly novel sight to many of us, and recalled pictures of such huts in books



EPISCOPAL CHURCH, COLON; BUILT BY PANAMA RAILWAY.

of travel in Africa. We gradually approached the bridge of Barbacoas—the word is from the Indian, and signifies a bridge. In the early days the Indians had spanned the stream at that point with a swinging bridge constructed of withes. The Indians, met by the earliest Spanish discoverers, were men of great ingenuity, fearless, hospitable and brave.* The railway bridge at Barbacoas is of iron; it is 612 feet long, and rests on substantial stone piers, and its cost was \$500,000. During the earthquake of September 7, 1882, it was thrown slightly out of line. The river at this point in the dry season is a peaceful, shallow stream, perhaps 200 feet wide. During one of the floods in 1878 the valley of the Chagres was overflowed, and there were 12 to 18 feet of water over the railway. Beyond the bridge were trees unfamiliar to me, and creepers in flower; orchids and palms also claimed attention. The great luxuriance and density of the vegetation, including palms, bamboos and cottonwoods, become noticeable at this point. The cottonwood especially, a huge tree with tremendous flanges at its base, is a characteristically tropic form of the native flora.

Matachin is the mid-section of the railway, and there the trains crossed. In those days there were but a few ranchos and a frame building belonging to the Panama Railroad Company here. It was just beyond Gamboa that I made my first acquaintance with a tropical down-pour. It seemed to come down in sheets; such rain I never had seen before, for it was almost a wall of water, and so dense that near objects along the side of the line were almost indistinguishable. It passed away as suddenly as it came; and then the sun looked forth on a smiling forest and a wealth of green interspersed with beautiful flowers of the richest hue. The flowering trees and vines suggested all sorts of fairy eyries in the labyrinths of the woods. Not far from Matachin on the right there is a once famous but now forgotten hill. It is named Cerro

* Washington Irving's "Spanish Voyages of Discovery," and "Life and Voyages of Columbus."

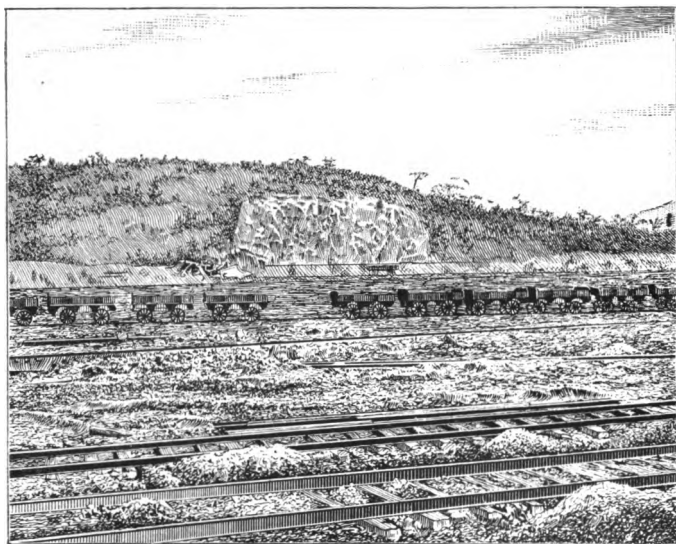
Gigante or the Big Hill, and it was from its crest that Vasco Nunez de Balboa first saw the grand old Pacific in the early morning of September 13, 1526. As all students of Spanish history are aware, he was the discoverer of that ocean, and his most romantic and adventurous life is charmingly told in Washington Irving's "Voyages of Spanish Discovery."

It goes without saying that as the line ascends from the coast, winding its way in and out among the hills, there are changes in the vegetation owing to elevation. We stopped at Emperador, then a small Indian hamlet. There we met venders of all sorts of things. The majority were females, and they were pictures in themselves. Their extraordinary dresses with the flounces above instead of below were a revelation to us. The women had black skins and around their necks hung chains of native gold. They were selling bananas, boiled eggs and other eatables. One stout wench thrust a bottle of lager beer at our party, and called out in her best English "Englishman's drink." The words were little short of libellous. While waiting there we got a glimpse of some native children, who bore a strong resemblance to the potatoes on a Parisian bill of fare, in that they were *au naturel*. Four or five stood on the embankment above us clad only in the cuticular covering supplied by good Dame Nature when they were ushered into a rude world. There were a number of ladies in our party, who affected not to see them, but their consciousness was self-evident. Then followed a roar of laughter that was absolutely infectious. These little Colombians, in the words of a witty American, were clad in dirt, a garment that fitted them accurately during life and rendered burial unnecessary. Past Emperador is Culebra, i. e., the Serpent. That is the highest point of the railway, it being 238 feet, 6 inches above the level of the Pacific. It is the lowest pass in the Andes in that part of South America. Culebra is on the crest or the "divide," as it would be termed in the Rockies. The density of the vegetation there may be gathered from the fact that rank grasses and undergrowth crowded

down to the very rails. Men are constantly employed cutting it away. It has been stated authoritatively that if the Panama Railroad remained unused for six months the whole line would be grown over and covered with tropical jungle. Having passed the crest we commenced descending and stopped at Paraiso, *anglice* Paradise, a charming little hamlet on the mountain side. Onward, and in the distance, we saw Mount Ancon, a small volcanic peak. It is just back of the city of Panama, and bears the same relation to it that Mount Royal does to Montreal, Canada.

Then we came upon more swamps and more mangroves and black soil. Here and there were great arms of the sea or "sloughs," as they are termed in California. At high water they are filled; at low water they resemble great muddy ditches; they connect with the Rio Grande or Grand River, some two miles back of the city of Panama. One of them was within a few feet of the railway embankment. Passing a small Indian village on the outskirts of Panama, the train drew up in the old-time station of the city. We disembarked and found places in a huge bus that was drawn by rat-like mules. We were driven over the dirty, uneven streets, past houses of known and unknown architectural beauty, to the Grand Hotel. The disembarking in Panama really was depressing—such ruin, such age, such desolation after leaving the bright and cheerful hotels and streets of well-kept New York; it was simply awful, and the presence of yellow fever in Colon, with many flags at half mast, and its presence in the city of Panama, did not make our surroundings any more cheerful. To be a faithful historian, I must say that the pigmy like mules were well beaten, and abused in Spanish. The fluency of our driver and the mathematical application of his epithets rendered us speechless. We rattled along over the dingy steets, past the old church of Nuestra Senora de la Merced, into the Plaza de la Catedral, or Cathedral Square, and stopped at one of the side entrances of the Grand Hotel. The latter, a huge building, occupied a whole block. It was four stories high, built of stone,

and so large and so spacious as to arouse my astonishment. It had been erected by an ambitious Frenchman, and in it he had sunk all of his money. It was an edifice that would have done credit to any city. Within, the rooms and table were fair, but it was malodorous in many ways.



CANAL CUT AT EMPERADOR ; 187 FEET ABOVE SEA-LEVEL.

CHAPTER IV.

MODERN PANAMA—LOCATION—POPULATION—SKETCH OF EARLY HISTORY, ETC.

MODERN Panama was founded in 1673 on Villa Corta. The first church erected within the city was that of San Felipe, over whose western door the date, "1688," will be found. Modern Panama is therefore over two centuries old. Panama was made a walled city; the walls costing over eleven millions of dollars some two hundred years ago, and that at a time when the Indians of the country were little better than Spanish slaves. In many places, notably on the Battery, the walls and masonry in general are in excellent order. The early Spaniards were magnificent builders. The city is built on a point of volcanic rock jutting well into the bay, and it was specially selected as a site for a walled city, in order to be safe against the fate that destroyed old Panama. As recently as 1849, in the days of the California gold fever, a deep moat crossed the city's front facing Mount Ancon. The moat passed from a point on the Bay of Panama past the famous old church of La Merced to another point in the bay beyond. On the city side were huge walls and the old time gate and drawbridge. To-day the greater part of the walls have been removed, and in their place one sees a continuous street. To the left of the main road beyond La Merced, some of the walls still can be seen with the old time embrasures for guns.

Panama was a stronghold of Spain for many decades. The hundreds of millions of treasure that were stored there seem almost unreal to us now, but they were substantial enough in fact, for in those days Spain was the sole mistress of the seas.

There is a story of a king of Spain who once while

looking from a window in his palace, shielded his eyes with his hand. A minister who was present noticed the act, and the king said, "I am looking for the walls of Panama, for they have cost enough to be seen even from here."

The main Plaza or square of Panama in 1880 was in the exact heart of the city. Standing at the Grand Hotel facing the Plaza, by looking across the street to our left, we see an old time building. It is the Cabildo, or town hall, a building dear to all Colombians, as being the spot within which they signed their declaration of independence following the throwing off of the Spanish yoke. The hotel and Cabildo complete that side of the square. Directly opposite the hotel was the Bishop's Palace, a modern building approaching completion in 1880, four stories in height, and of a handsome architectural design. The then resident bishop was one of Colombia's most talented sons, Bishop Paul, now archbishop of Colombia, with residence in the Federal capital of Sante Fé de Bogota. This is the oldest archbishopric in the three Americas ; the first church in America having been built in Santa Maria de la Antigua del Darien, a spot not very far from old Panama, out on the Atlantic side of the Isthmus. Returning to the city, opposite the Cabildo is one of the old time Colombian stone houses, three stories high, with balconies, and covered with red tiles. Such buildings generally are whitewashed.

The Cathedral of Panama is to the left of the Grand Central Hotel. A well-known writer* states that it is of the early renaissance, but he is mistaken. The building has two lofty stone towers, of a pure Moorish type, whose domes are covered with the cement for which the early Spaniards were famous, and in which are embedded hundreds of pearl shells with the pearly side out. They are worked up in various designs on a field of red cement. Although having been exposed for upwards of one hundred and twenty-eight years, still on a bright, sunshiny day the sun's rays are reflected from them.

* Trollop's "Spanish Main and West Indies."

The front or façade of the cathedral is attractive. There are huge doors, columns, niches for the twelve apostles, and one above for the Virgin. The edifice is built of a yellow stone strongly resembling sandstone. Over the main entrance there is a double cross, the emblem of a Bishop's see. Opposite the cathedral in the days referred to (1880) there were the ruins of the old Grand Central Hotel, a building that had been badly damaged by the great earthquake of 1858. Later the old Grand Central was destroyed by fire.

In 1880 the Plaza was divided into four minor squares by intersecting streets, one leading across the city from wall to wall, the other being a part of the long axis of the city. Facing on the Plaza and in some of the streets in that vicinity, are the principal shops.

All the churches are within the city except two, the first being that of Santa Ana in the Plaza of that name. It was a suburban church, built some two centuries ago by a wealthy Spanish nobleman, whose family name was St. Ana. Back of it, and near the entrance to the Quinta Santa Rita, there are the ruins of its old chapel of ease. The Quinta is a charming spot at the foot of Mount Ancon, and is the property of M. Leblanc, who made himself famous during the first visit of De Lesseps to the Isthmus of Panama. He told *Le Grande Français* that if he attempted the construction of a canal across the Isthmus, there would not be trees enough there to make crosses to place over the graves of his laborers. M. Leblanc was an old timer and knew what he was saying. Thousands and thousands of canal men have been buried on the Isthmus, many of whose graves are marked by crosses, while many others are without any crosses at all.

I reached Panama City on the 29th day of May, 1880. It then had a population estimated at fifteen thousand; the majority being black. Negroes, Indians, mulattoes, —and a blending of both races, with some Chinese. Perhaps there were as many as two thousand whites on the Isthmus. The principal trade of the Isthmus was then, as it is now, in the hands of foreigners, with foreign enterprise and foreign capital.

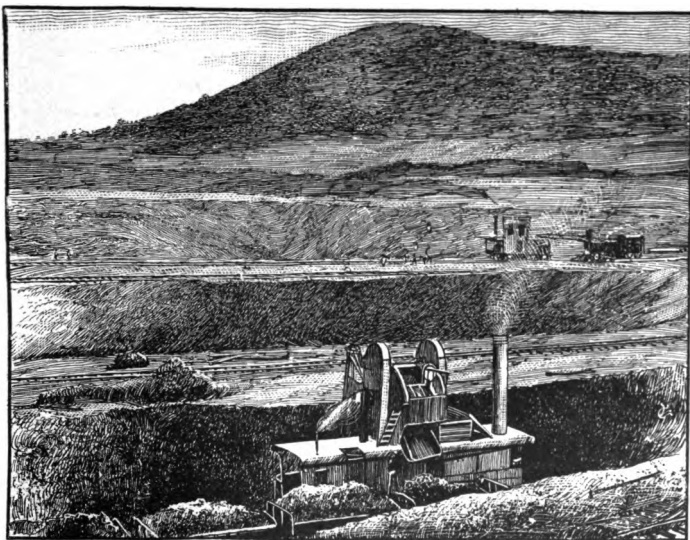
CHAPTER V.

LIFE ON THE ISTHMUS—ITS TRADE AND COMMERCE—CHIEF
INDUSTRY REVOLUTION—HOLIDAYS—BULL-TEASINGS—
RELIGIOUS PROCESSIONS—MARKET-PLACE.

AN American once wrote his Consul-General in Rio de Janeiro asking for information in reference to the climate of Brazil, and closed his letter thus: "How do people live?" The Consul-General wittily replied that it all depended on the liver. In Panama, and on the Isthmus generally, all does depend upon the liver.

It goes without saying that a regular life in all torrid climates is its own reward. By a regular life I mean something after the following, which is the régime of many residents within tropical countries: Getting up early—say at six or seven—beginning the day with a bath, and then coffee and rolls. The breakfast is eaten at eleven or twelve, and is a breakfast, properly so called. In temperate climates many would deem it dinner. I, in common with many old residents of the tropics, began mine by taking some ripe fruit, following it with a beefsteak, potatoes and coffee. I made my meals simple; such resulting in the greatest good and the smallest inconvenience. Dinner at six, and dinner as it is understood in all Anglo-Saxon countries, followed by a quiet evening and going to bed early. The regular life pays always; it gives the maximum of health and the minimum of inconvenience. Many would vote such a life slow. Maybe it is, but it keeps one's disease-resisting powers up to the highest standard, and is a source of continual comfort.

A word in reference to the use of alcohol, beer and wine. From my professional experience, and as the result of nearly eight years personal observation within



CANAL CUT, CULEBRA ; 369½ FEET ABOVE SEA-LEVEL.

the tropics, and having tried both moderate stimulation on the one hand, and total abstinence on the other, I am firmly of the opinion, that the people who best resist such wretched climates and make the best fight against disease, are the total abstainers.

The yellow fever of the Isthmus of Panama is a peculiarly malignant disease. I can recall forty-one admissions to the Charity Hospital in a few weeks following my arrival on the Isthmus in 1880. Not a single man escaped. Of seven and twenty admissions to the Officers' Ward of the Canal Hospitals on the Panama side, one man only escaped. In case after case in practice, death was the rule and recovery the exception. While it is true that some total abstainers on the Isthmus have been swept away by yellow fever, I can recall three desperate cases, one being my own, which had been abandoned and in which death was looked for. All recovered, thanks to abstemious habits.

The idea that any human being in hot climates requires alcohol is an old time myth, kept up by those who like to drink. No fact is better known to every student of tropical disease than that the liver of even total abstainers becomes somewhat enlarged. "Why," say you? Remember the constant malarious conditions; and bear in mind that in temperate climes the organs have their own fair share of work. In the tropics, immediately within the malarial and yellow fever belt, where there is such extreme heat and constant moisture, the lungs are unable to do all of their share, and a part of it falls upon the liver. In keeping with well-known physiological laws this becomes slightly enlarged. Life within the tropics therefore does "depend on the liver," as the quick-witted Consul-General at Rio said.

Another point in this connection. There is a general belief held by many highly intelligent people that a residence within hot countries has a marked tendency to increase the sexual instincts. Such is not the case. The real explanation of it is this. The majority are away from the refining influences of early culture and home life,—generally they are single men,—in a warm climate where

all the conditions are supposed to produce general relaxation. There is little society open to such men. If they become "one of the boys,"—and the vast majority do, that is the end of it, and generally of them too, for this means late hours, gambling and other distractions, largely *pour passer le temps*. Such men readily become victims to disease. No fact is better known to students of yellow fever than that the very moderate drinkers—men who have never been seen under the influence of liquor—are among the earliest victims in all epidemics of yellow fever, and they are lost from the start.* I wish my readers to understand that I am in no sense a temperance lecturer, nor am I a total abstainer, properly so called; I simply deal with the actual facts.† Dr. Johnson, ‡ in his admirable book, summarizes the whole thing when he discusses his life-long experience in the East Indies. He refers to the loss of home or corrective influences, and the attractive diversions that at first are pleasurable and finally entangle the victim in chains of his own forging. He discusses the whole question as one would expect of a man of his high intelligence and vast experience; and he manfully calls a spade a spade. Referring to his long experience in India, both in military and civil circles, he dwells on the idle life, highly seasoned food, constant stimulation, and want of exercise and healthy employment of body and mind, and then in a masterly way clearly shows how these lead to vices and bad livers; and how the English damn the climate, which is bad enough in all conscience, while they should damn themselves. These moderate drinkers take their pegs, maybe two or three a day. A "peg" is a good stiff dose of brandy and a bottle of English soda water; the name "peg" being a reference to another nail in their coffins. The people who indulge in these pegs are not laying up treasure for

* Article on Yellow Fever, Vol. II., Ziemsen's Encyclopædia of Medicine.

† Ninth Biennial Report, Board of Health, State of California, 1886; Article on Yellow Fever.

‡ "Diseases of Hot Climates," London, 1846.

themselves above; quite the contrary. Later they will be harnessed to a liver that will make their lives a burden to themselves and to their families. The moral of all this is: Keep out of the tropics if you can. Should necessity force you within them avoid all forms of alcohol, that you may spend your later days in peace and comfort. Anyone who has travelled extensively in the tropics—I refer to the West Indies and the tropical portions of Central and South America—can tell you of dozens of noble young fellows who have gone thither to seek fame and fortune, but who have been wrecked almost at the outset by the general relaxation, which ignorant people charge to the effects of the climate, instead of attributing it to bad associates, wine and women. The climate is not responsible; the mortality is due to want of firmness and those corrective influences so necessary for the best of us.

The trade and commerce of Panama and vicinity is made up largely of goods in transit from and to various parts of the world. Products from the Pacific lands cross the Isthmus from Panama to Colon, there to be distributed to the various steam companies for the West Indies, Europe, the United States of America, and Canada. Those by way of Colon to Panama are handed over to the steam carriers on the Pacific going South to Chili and Peru, north to Central America and San Francisco, and from the latter to trans-Pacific ports. The local trade of the State of Panama is largely supplied from the city of Panama. The State of Panama is the extreme northern end of South America, and terminates in the Departments of Chiriqui and Veraguas, where the latter join the southern boundary of Costa Rica, or the extreme Southern Republic of Central America.

A few years ago one of the leading industries of the Isthmus was the exportation of crude India rubber. Its value in those days was considerable, and against such consignments the merchants of Panama and Colon drew their bills of exchange. The Isthmus of Darien to the northeast of the State of Panama, was one of the chief

departments furnishing that elastic gum. Ivory nuts were also an important item, the latter the fruit of a species of palm.

The State of Panama is more of a consumer than a producer. It will be literally true to say that her daily bread depends on flour from San Francisco and New York; and the same thing is true of the greater part of her provisions and vegetables of all kinds. The trade and importance of the Isthmus of Panama are due merely to its situation. Her manufactures are now, as all industries are, handicapped by preposterous concessions. One day the question was asked in my hearing, "What is the leading industry of Colombia?" A quick-witted, talented Colombian instantly replied, "Revolution." So it is. It is at once a profession, a science, and a game. Dr. Rafael Nunez, the President of the Republic of Colombia, denounced it as a profession in the summer of 1884, while I was a resident of Panama City. The last revolution of March, 1885, destroyed Colon, paralyzed canal work, upset transit, and caused a veritable reign of terror, and undoubtedly would have led to the destruction of Panama but for the prompt action of the British and American Consuls. The first man-of-war there was a British one, and later American vessels of war arrived in numbers, when Consul-General Thomas Adamson, representing the interests of that great republic to the north, took prompt action, and it was he who saved the city of Panama from the fate that destroyed Colon.

The holidays on the Isthmus are a feature worthy of lengthy description. They are the breaks in a monotonous life. The festival *par excellence* is that of the 28th of November, or the anniversary of the signing of their declaration of independence. The 28th, 29th and the 30th of November are devoted to bull-teasings, horse-races, masquerading, and other sports. During one of these festivals a huge circle or temporary bull ring was put up in the Plaza de Santa Ana, outside the walls. It was a substantial structure fenced in. Above were covered-in palcos, or boxes. One of these could be

secured for the fiestas or holidays upon payment of eighteen dollars, the holders being at liberty to put in as many as six chairs.—You have to furnish your own chairs there both for bull fights and theatres, or stand.

The bull-teasings next to the horse races are the events. If your palco or box is good, the whole scene passes directly beneath you, just as it does in Madrid. On the Isthmus of Panama the animals are not killed; they are teased. A bull, the points of whose horns have been sawn off, is led into the inclosure. Men specially selected and paid do the teasing. The bulls are from the country and generally are fresh and ready for combat, but, as the points of the horns are cut away, gorings are not in order. One of these dare-devil *torreras* flaunts a strip of some red material at the bull. The animal, if game, makes a furious charge when the man deftly steps aside and avoids the attack. It goes on and on. At times four and five of these men may be seen exciting the animal. Often the men, if new to the work and careless, are thrown down, trampled upon, or thrown up into the air, when the others immediately divert the animal and drag the man aside. At all such festivities a band is in attendance, generally that of some regiment in the garrison. Whenever the slightest mishap occurs, either to the men or to the bull, the multitude cheer madly, the band plays, and the wildest enthusiasm prevails. It is quite Spanish. After half an hour or more the bull is fagged out, when to stimulate the unfortunate animals the *banderilleros* are called in. They are men who have nothing to do with the teasing. They are armed with a cruel shaft. This is of wood some eighteen inches long, with a barbed iron head securely fastened to it. At the other end of the shaft amid colored papers and ribbons, fireworks are concealed. The man attracts the attention of the bull and at the right moment, when the animal charges him, he deftly thrusts the *banderillero* between the horns and drives it into the animal's neck. I should say that he has previously lighted the fuse from his everlasting cigarretto. Having successfully placed his shaft he steps aside. In bull-teasing this is

an exceedingly dangerous part of the play.* The fuse burns to the large detonating masses. They go off with the report of a gun; they burn the hair and flesh of the infuriated animal, who at times madly roars, jumps clean off the ground, and vainly endeavors to get clear of the Spanish infernal machine. This causes the wildest uproar. The crowd is frantic with joy. During one carnival season I saw the bull resting against an inclosure after the torture, when a native got on the top rail and cut the barbed shaft out leaving a wretched wound and huge burn. This literally devilled beef is later on killed and marketed, as is usual there. The animals are furnished to the authorities by the leading butchers of Panama.

Well do I remember my first bull-teasing. The scene below me caused intense nervous excitement, and when the unfortunate animal tossed a banderillero I exclaimed aloud, "Good, good," my sympathy being wholly with the bull, not with his cruel tormentor. As an inclosure is an exception to the rule, accidents often happen, for the teasings take place in the square and the throngs are all around its sides at any point of vantage. Occasionally the bull makes a charge toward the crowd, when there is a rush, and often serious accidents happen. I have seen a man knocked senseless. Later on the same day the animal charged out on the side street and all but killed a passer-by. The bull-teasings last two and three days. They are alternated with horse-races and masquerades.

The races often are held on the main thoroughfare, when many fearful croppers are witnessed, due to the animals falling or running over foolish people and children who attempt to cross the street while the races are going on. Accident after accident and death after death have been caused in this way. The Colombians, like the Central and South Americans and Mexicans, are natural horsemen; they ride as if they were a part of the horses, and at times without saddles, at a pace that

* "Voyage en Espagne," Gauthier, Paris, 1840.

is simply appalling. Thousands frequent the races. The people come up to the city from the surrounding pueblos or villages to be present for the festivities. These large masses encourage the reckless riders, and intoxicated by the applause they pass on to victory, broken bones, or whatever is ahead; it is their way.

A masquerading scene there is quite in keeping with what I have noted in St. Thomas, Cuba, and Hayti. Nothing gives a negro or his descendants such intense pleasure as to don a mask and an outlandish garb, and amble about the streets singing and talking in wretched falsetto voice. If he can secure a few white on-lookers it is ecstasy. They caricature everything; no character is sacred—sisters of charity, priests or anyone. For the three days of the festivals and well into the night, they and their monkey-like pranks and shrill voices may be seen and heard. There is a great deal of drunkenness. Our fisticuffs are replaced by stabbing and cutting. A native spirit called anisado produces more drunkenness and more drunken frenzy to the square inch than anything that I have seen anywhere. When the negroes, mulattoes and Indians reach that stage they are ugly and bloodthirsty. It is not unusual for the fiestas to result in five or six deaths, apart from wounds innumerable.

They all carry the machete. This is a long, sword-like knife, the inseparable companion of all the lower classes. It is a lineal descendant of the swords of the early Spaniards who had to cut their way, the atrochar or trail, while going through the woods. The natives use these weapons for chopping wood, felling trees, cutting grass and each other. They make beautiful surgery for a doctor. The masses in Panama are little better than semi-civilized, and when more than half drunk they are absolute savages. After three days of "festivities" and unbridled license among the lower classes, the city gets back to its usual calm, and the cries of "Viva Colombia," or "Hail Colombia," are put away for the next occasion.

While at Panama in March last I accompanied a party

of friends to see a night procession from the historic Church of St. Ana. With a fearful clanging of bells the procession came out from the side door of the church. In front there was a huge frame, perhaps sixteen feet long by six wide, on which were built up a series of shelves covered with highly colored cloths. On these were lamps, images, and vases of flowers, the whole surmounted by a large figure of the Virgin, resplendent in muslin and gilt, amidst a blaze of light. The procession was preceded by no end of women with candles in their hands. I failed to ascertain what connection, if any, existed between them and the wise virgins that we read of. Then came the bearers of the Virgin and after them the clergy, all singing. A member of our party, to my mind, summarized the whole thing when he said, "It looks like a lamp shop on leave of absence." It is needless to observe that we uncovered as it went by. "When among the Romans," etc. Late in the fall there is a great religious procession somewhat of this type, when hundreds may be seen carrying candles, and the Virgin and many of the saints are carried about in great state. The eve of Good Friday is made a special festival in the church La Merced.

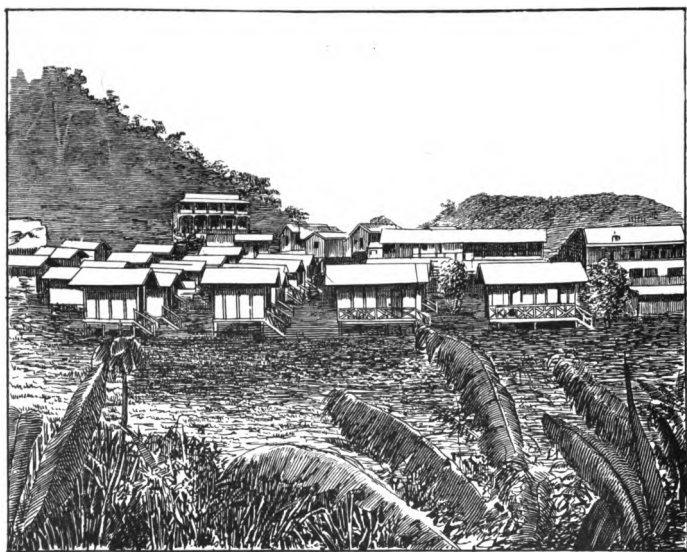
A figure of Christ may be seen resting on its back, just without the chancel, with its head towards the main altar. It is a life-like figure; the head is covered with a shock of hair; both feet protrude from beneath the robes; the crowd surges forward and one by one reverently drop upon their knees and kiss the right foot, generally the great toe. I can here state for an absolute fact that the great toe of the left foot has been greatly worn away by this custom. While this is going on crowds in the church composed of women and led by some awful looking old crone, a negress or a mulattress, keep on repeating endless prayers. It is Babel. One year, while a resident of Panama, I took an elderly Welshman around to see the churches on the eve of Good Friday. After seeing La Merced we visited the church of San José (St. Joseph), an old time edifice. On altars and in glass cases were some awful looking fig-

ures. Near the main entrance on our right, on that occasion, was a life-sized figure of Christ, in a glass case, clad in loud garments with a fearful wig upon the head. It was an extraordinary spectacle. The old gentleman at my side looked at it intently and whispered to me, "He does not look like a gentleman." The remark, his seriousness, and the suggestiveness caused me to get outside instantly to give my mirth fair play. I had never looked at it in that way. The sole religion in Colombia is that of the Church of Rome, or, practically, it is the sole religion. Latterly its fetters have been drawn tighter and tighter.

In order to see the market-place at Panama, and it is a sight well worth seeing, you have to get up just about the time that the first light begins to show in the east. The building is of metal, and was brought to the city all ready to be put up. Reaching it you are struck with the number of people who are up and out at that early hour. The place is full of them. The market is divided into sections, in each of which is one kind of raw material out of which the cooks will manufacture dishes, savory or the reverse. Panama is an Indian word meaning "a place abounding in fish," and as might be imagined the fish-supply in the market is very large. It comes from the river and the sea. There is a kind of giant catfish, weighing from ten to thirty pounds, which is very cheap and therefore popular with the poor class. Another common fish is a species of bream with enormous scales. Of sea fish, the red snapper is very plentiful and very good. Sometimes one comes across a Jew fish or as Tom Cringle calls it in his "Log," a most noble Jew fish; easily one of the best that is caught. Pinkish red shrimps are piled in baskets and alongside are other piles of brown-colored things, the flesh of shrimps dried in the sun. Dried fish is common and finds a ready sale. In the meat market, beef is the staple, although you see some pork and some goat. The meat is all cut into long strips and is sold by the yard. When slightly salted it is dried in the sun and in this form is the staple food. It generally smells somewhat too strongly to be acceptable

to Europeans or Americans. The vegetables are in great heaps on the ground. Yucas, yams, potatoes, rice, plantains, corn, onions, garlic, beans and peas are the most common. Sometimes you see Brussels sprouts, kale, cauliflower or lettuce, and now and then a palm-cabbage. This consists of the young leaves and heart of the cabbage-palm, and is rather good. Of fruit there is no end in spite of the fact that Spaniards consider it unhealthy. Aguacates or alligator-pears, oranges, limes, papeyas, melons, mangoes, bananas, guavas and cocoanuts are the most common.

The system of marketing strikes a stranger as being odd. It is done by the cooks and as they never buy more than just enough for one day, you will see in the wooden bowls carried on the head, a small fish, a piece of meat, a yuca, a yam, a handful of garlic and an onion, four or five mangoes, a couple of plantains, two or three limes, a little rice in a small gourd, and some bread. It is a gay scene, with the women walking about and chaffering with the dealers, while the men are carrying in supplies from the canoes. Standing about are hundreds of the patient little donkeys so characteristic of Spanish towns.



CANAL ENCAMPMENT AT CULEBRA, ON THE "DIVIDE."

CHAPTER VI.

THE CHURCHES AND ECCLESIASTICAL RUINS OF MODERN PANAMA.

MODERN Panama is rich in material for all students of ecclesiastical architecture. These churches, church ruins, the old convents and the ruins of the Jesuit College, deserve a chapter to themselves.

The oldest church is that of San Felipe Neri, in the long past the parish church of the city within the walls. Its side is on a narrow street, and over the sole entrance there one reads, "San Felipe Neri, 1688," cut in a shield. The early Spaniards were famous for making cements, both colored and uncolored. So hard were they that they have stood the effects of the heat and moisture of that destructive climate without damage. This old-time cement to-day is as hard as stone. Over the entrance to public buildings and churches they made their inscriptions in these cements, in many instances filling in odd spaces with ornamental work made of the large pearl shells from the famous Islas de Perlas, or Pearl Islands in the Gulf of Panama. Such designs when new must have been chaste and beautiful, as the smooth mother-of-pearl surfaces of the large shells on a background of reddish cement must have made a beautiful contrast, the shells reflecting the sun rays in thousands of directions.

This quaint and most substantial old edifice faces on a small street. At one time it made the corner of the Plaza San Francisco or St. Francis Square. The large door is reached by a few stone steps, on either side of which are a few plain columns; while there are a few lancet shaped windows above. Its front is very plain. The whole is surmounted by a quaint old tower of the

true Moorish type. It is built wholly of stone with a rounded cupola of the same material. Lashed to cross-pieces are the old-time bells. The door is a huge affair of most substantial make, studded with huge brazen heads or knobs. When closed from within, persons in the church could stand a small siege very successfully. The side windows of the church are fully twenty-five feet above the street, and they were purposely so made in case of attack. The walls of San Felipe Neri are nearly five feet thick, and the windows are so deeply recessed as to remind one of an ancient fortress or prison.

Many and desperate were the battles fought by the early Spaniards against the Indians of those days, and the value of a substantial stone building was duly appreciated. They, when pressed, sought refuge in the churches and closed the doors, when what was the house of God temporarily became a Spanish fortress in miniature—a happy combination of the things of earth with those of heaven. This most interesting relic of the past has had its main front built in, and is thus absolutely lost to sight. The building in front to-day is a school for girls, under the direction of the sisters of charity, the majority of whom are Frenchwomen.

A large and very interesting edifice is the church of San Francisco, or St. Francis. It faces on the Plaza of that name and is within a stone's throw of San Felipe Neri. It is about 150 years old and has two large towers. Its front or façade was, no doubt, in the long past, a masterpiece adorned with much rich masonry. Time, neglect, and climate have not improved it. This building has an enormous pair of doors. They are studded with huge brazen heads or knobs, and if I remember rightly, the knobs are seraphs. These churches are nearly all built of stone from Panama or its vicinity; a stone resembling in color the sandstone so familiar to travellers in the United States, and the Caen-stone of the continent. That quarried in the Bay of Panama at low water is said to be a pure volcanic rock from the old volcano of Ancon, just back of the city of

Panama. In the church of San Francisco the lancet shaped windows on its front are high up and well out of the reach of a possible enemy. The towers of this church resemble those of San Felipe Neri, La Merced, and some others to be described, being of the usual Moorish type. The bells I shall refer to later.

Within the vast edifice as you look from the main entrance you note rows of noble stone columns, rising from the floor to blend with graceful arches. These columns are of the most substantial type, the bases of many being five and six feet in diameter. These rows practically divide the church proper into main and side aisles. The grand altar faces the door, and looking towards it you have on either side these beautiful columns rising before you. The altar of San Francisco is a huge affair and is largely composed of carved wood of the old style. Many of the carvings are classic. The altar, as one familiar with things Spanish would expect, is covered with a profusion of church ornaments. In all Spanish countries the display in such places is greater than in any Anglo-Saxon land known to me. On the right and left of the grand altar or beyond the row of columns there are side altars at the ends of their respective aisles. Looking into the edifice from the main entrance along either of the walls one sees side altars and confessionals, the latter being of an exceedingly simple type. The base is of wood raised a few inches above the floor. It has no covering. A simple wooden partition runs up a distance of perhaps five feet, and about midway in this there is a small lattice. The padre or priest sits on one side while the penitent kneels on the other. Confessionals of this type are common in Spanish American countries.

The great number of mural tablets attracts the attention of a stranger, as do the marble slabs in the stone floor. They bear suitable inscriptions which tell of the last resting-place of the bones of some one.

These churches have a species of pew. For the grand fiestas or holidays the aisles are filled with chairs. People send their servants with chairs to the churches,

to the bull-teasings, and to the theatre. To see a family going home after service with people following them with chairs on their heads is not unusual. It is not unusual to them, but it certainly makes strangers stare.

Near the grand altar were many valued relics. Amongst others I particularly noted the real skull of a departed saint. It was in a species of glass case. One of the eyeless sockets was covered with a fine mould. It looked uncanny, but as the inscription said it was the skull of a true saint, that ended it. These real skulls and pieces of the real cross and portions of the garments of Christ that one meets in travelling sadly disarrange one's mental mathematics and bring about a severe type of mental indigestion, which is, to say the least, very annoying. But one of two issues stares one in the face under such circumstances—either that the majority of mankind are a credulous lot, or that he has been educated above the requirements of the country in which he lives.

During my last visit to Panama I had occasion to call on one of the priests of the church of San Francisco. The beadle led me up a narrow staircase, and at last we stood on a shelf-like passage leading to a species of loft or choir to the right. I looked down on the vast building and its substantial columns and beautiful arches, and its hugeness impressed me. We passed through a small doorway to the left, in what was really an upper part of an outer wall of the church. Along the roof on that side were a number of rooms occupied by the clergy. Thus while living on the church, they really lived outside of it. From the side windows there was a view of the bay and the ruins of the buildings occupied by the priesthood of San Francisco in the past. The walls of the old ruins adjoin the church and extend from it to the sea wall on that side. These large and substantial walls give one an idea of the original vastness of the building. One front of them some years ago was inclosed, covered in, and converted into the Charity Hospital. In that building hundreds and hundreds have

died of yellow fever. At present it is occupied as a storehouse, but as it never was disinfected or fumigated in any way, shape or manner, to my mind it is a hot-bed of the disease. From one corner of the building there rises a pure Moorish tower, such as one sees all over Spain—I mean all over that part of Spain that was overrun by the Moors during their occupation of eight hundred years. From the church of San Francisco and these buildings around it there is a magnificent view of the bay and islands. Apropos of the ruins, I may state that the sea wall, or that toward the southeast side, has fallen away, as it has been undermined by the constant washing of the tides. Sections have fallen out, revealing the substantial character of the sea walls, the bases in places being twelve and fifteen feet through. Their falling away also revealed a vaulted or arched way leading into the city proper. It was well constructed and sufficiently high for a man by stooping to walk with considerable ease. No fact is better known to the few who have made the subject a matter of close inquiry than that the ecclesiastical buildings and churches of modern Panama had an underground communication. On the other side of the church of San Francisco there are walls and another lofty Moorish tower, and, a few years ago, beyond these were the ruins of the convent of San Francisco. In the good old days, when Spain was a power and the Isthmus was flourishing, it was a convent of cloistered nuns. As the term implies, their lives were wholly passed within the walls; there they lived, died and were buried. Some forty years ago, when the Colombians threw off the then oppressive yoke of Rome, the Jesuits and sisters of charity, with the priesthood generally, were expelled from the country. Mr. Bidwell, a former British Consul at Panama, in his most instructive book,* gives an insight into the life of these very sisters of charity. The hungry and thirsty always found food and water at the main entrance at all hours of the day and night. They knocked, and the hand of an

*"The Isthmus of Panama," Bidwell, London.

invisible sister relieved their wants. At the time of their expulsion there were several sisters so aged and feeble that their being sent away really was at the risk of their lives, and it was left to Mr. Bidwell, a foreigner, to see them safely on board of some vessels in the bay which were bound south. It is said that bones have been discovered within these walls. Such, no doubt, was the case, for the nuns were buried in them. In the early days the sisters entered that building never to leave it. To-day what was then the main front of the convent is a theatre.

Life is but a series of contrasts. There the excellent sisters prayed and died. Mademoiselle Sarah Bernhardt electrified the modern Panamanians some eighteen months ago by one of her plays which was rapturously received, the city fairly going wild over it. At a later performance, with a view of doing her honor, some huge Chinese crackers were attached to the main door. While the immortal Sarah was on the stage, off went these miniature bombs. Great was her fright, and it resulted in a violent fit of hysterics, and the awful newspapers stated that the French beauty kicked like a Texas steer. Of all places, fancy Sarah in a convent!

Leaving these nuns and crossing the city, almost from side to side, on the left-hand corner of Calle San José, or St. Joseph Street, are the ruins of San Domingo, or the church of St. Dominic. There is much of interest about this ruin not found in connection with the other buildings. The brethren of the order built the church; they planned and built it with their own hands. Its façade or front is a mass of ruins, and the upper part has fallen away. Along the upper walls there is quite a dense growth of shrubbery, and from the chinks in the wall there spring numerous tropical bushes. As one would expect, it had a huge main entrance, on either side of which were the columns terminating above in capitals; there were niches, and above all a few lancet-shaped windows. The front of this church is partly of stone and partly of brick. Cement or concrete entered largely into all the work of the early Spaniards; and

beautiful work they did. The latter when whitewashed gave the appearance of white marble columns. The towers of St. Dominic are of the past—not a vestige remains. Within the edifice previous to the great earthquake of September 7, 1882, there was a lofty arch in front of the grand altar. Springing from either wall it crossed fully eighty feet above the floor of the church. There it stood, bold and substantial, against the blue sky. The earthquake destroyed it. A more interesting arch from a historic standpoint is that just near the main entrance, and above which was the old choir. This arch was built and fell. It was rebuilt and fell again; it was rebuilt and fell a third time and the brethren were in dismay. Their plans had been at fault. A new design was prepared, and for a fourth time it was built, and before the supports were finally removed, its designer stood under the arch, saying it was well made, if not he would be crushed. It did not fall, and to this day it remains, the most interesting relic of church architecture in the city. It is an arch in name, but is almost flat along its centre; such an arch I have never seen in my wanderings.

On the side walls of the church were windows some thirty feet above the ground, and on both sides were entrances, one to the grounds occupied by the clergy, and the other on the side street. Speaking of the growth of shrubbery all along the walls of St. Dominic, I recall a terrific thunder-storm when I was in the Grand Hotel. While I was watching it from a window, a flash of lightning dazzled me; it had struck the side of the wall of the church nearest the hotel and set fire to the shrubbery there.

On the same Calle San José just beyond the main entrance to the church of St. Dominic, there is the quaintest of all the churches and chapels in modern Panama. Its front is of masonry and has a huge entrance, and a few bells are placed in a temporary wooden tower in the corner. Its pews are of the smallest and most primitive character, and the Christians who worshipped in it certainly got small comfort by

attending church. Just within the large doorway a few wooden columns support a loft or choir, all of the most primitive type. There is a main aisle and two tiny side aisles. Standing at the door and looking towards the grand altar, you can see midway on the wall on either side, side altars with extraordinary figures of Christ, the Virgin, and the Saints, occasionally draped in garments of the loudest hues. High up on the right wall looking towards the chancel, there is an old fashioned pulpit, which is reached by a narrow, steep stairway.

The grand altar in this little chapel to me was a matter of endless curiosity. The paraphernalia of the church placed upon it, the gaudy drapings of the saints, and the violet colored paint of its woodwork were astonishing. In the dresses sea-green and yellow were predominant colors. Such combinations only seem to obtain in Spanish America and in the mother country. They offend the eye, and one vainly looks for that pure taste and elegance that one expects to find in churches.

The resident priest lived back of the church, and he was so aged and infirm that it seemed a wonder that he lived on; yet he did, and occasionally officiated. Misfortune overtook the old gentleman just prior to my leaving the Isthmus in 1885. The savings of his lifetime had been stolen. The sum was not fabulous, but it was his all. In that long life of nearly eighty years he had actually amassed nearly four hundred dollars! The robbery was a cruel one, and at his time of life the shock would be sufficient to hasten his end, so I doubt not that he has been gathered to his fathers. I may state here that this magnificent simplicity is the exception and not the rule.

The church of San José faces on the street of that name and its rear walls abut on what was a part of the embankment of the sea wall, on the western face of the city. This old-time church claims but little from one, save the respect that attaches to age. Its front is not ornate; it has the usual huge door or doors, and a small square Moorish tower on one corner.

Within it is a huge, dreary, barn-like structure. Its grand altar has little that claims attention, save a few hammered out silver book-rests—I mean the silver has been hammered out and secured to wooden backs. The plainness of the grand altar and its lack of gaud, is in pleasing contrast to other churches. Some of the side altars have figures of saints in many colored garments, the saints being of wood and of plain workmanship. The poverty of the church within indicates a poor congregation.

I visited it once on the eve of Good Friday, and saw that it had also introduced a figure of Christ with the feet exposed; but La Merced has the monopoly. The latter is on a main thoroughfare, and Christians there as elsewhere, seem to prefer publicity in their religion, and are not given to side streets and poor churches. La Merced was thronged on that occasion, while San José had a mere handful; but at the latter I noticed a more general practise of kissing both feet. This sort of thing obtains in Central America as well. Once while in the city of Guatemala, in the highlands of Central America, I visited the Church of the Calvary, and there saw a figure of Christ in a glass case with one foot projecting. The faithful ascended two steps, knelt and kissed it.

We are told that time and tide waits for no man, and unless some steps are taken to repair the sea wall just at the back of the old church, some day the rear walls of that venerable building will go to sea. The constant action of the tides has undermined the massive foundations, and a portion of the sea wall has fallen outward in huge masses, and through the gap the rollers, as they come in, are slowly and surely cutting away the embankment. Owing to the great rise and fall of the tides on the Bay of Panama, from 18 to 24 feet, the destruction is sure. Already a part of the street has been cut away, and when I was last on the Isthmus but about fifteen feet of earth remained between the rear walls of San José and the gap.

It is usual there, as in Spain, to do nothing until the

expected happens. In illustration of this statement, I recall reading of the great damage done that most classic of old buildings, the cathedral of Saville. This, one of the grandest monuments of Spain, was greatly damaged recently by the falling in of the greater part of its stone roof and columns and the destruction of its choir. The damage to this grand old edifice impressed me the more, as during my trip through Spain it had greatly interested me.

On the Isthmus, as in Spain, politicians are too busy with schemes for self-aggrandizement and self-profit to take into consideration the needed repair of old monuments.

The cathedral of Panama was built at the sole expense of one of the bishops of Panama, and was completed about 128 years ago. The bishop's father was a Panamanian by birth—a colored man. He made charcoal near the Boca de la Rio Grande, or the mouth of the Grand River, a stream entering the Bay of Panama some two miles from the Panama City of to-day. This colored man made his charcoal and brought it on his back to sell from house to house,—a custom that obtains to this very day. He gave his son, the future bishop, as good an education as was possible. In due time he became a deacon, priest and finally bishop of Panama—a bishop of proud Panama, for in those days it was a wealthy city. He was the first colored bishop of Panama. This son of a charcoal burner developed into a grand man, and in time crowned a life of usefulness by building the cathedral from his private means. Much of the stone used in its construction is from the highlands of the interior and was brought many leagues on the backs of men. After long years the building was completed in 1760.

The main doorway faces the Plaza as previously stated. The huge doors swing back on ponderous old pivots, and are made of hard wood, fully four inches thick. The fastenings in brass would set many archæologists wild. Just within and facing the door, is a small, square altar or shrine in white and gold to the Virgin.

A few years ago a real Murillo hung on the inner face of this, facing the grand altar. Rows of pure white columns at once attract attention; their solidity, exquisite proportion, and whiteness, with their arches above, to me were very beautiful. These columns divide the building into main and side aisles. The first pair terminate above in an almost flat arch, the upper surface of which resembles a miniature viaduct. Above is the roof, of a dark, rich wood, of a reddish tint. The contrast of the arches with the dark colored wood is grand. The next set of columns have a different species of arch, higher up and running directly up to the roof. Then there is the kind of arch first described. These arches alternate until they terminate in the distance near the grand altar. Some of them have the coats-of-arms of Leon and Castile. It is impossible to visit that grand old building without being filled with admiration.

Looking from the door down the main aisle with the pure white columns rising on either side to the arches and roof above, the whole terminating in the grand altar in the distance, makes a most effective picture. The outer rows of columns make side aisles. Their arches are not nearly so lofty, and cross to join the main columns. Looking down either of these aisles one sees the usual side altars at their ends. Along the side walls of the church are two side altars and the Stations of the Cross. That old building was a special admiration of mine; its interior, its fittings, all appealed to me. The grand altar is enclosed within a neat chancel railing. The bishop's throne is to the left as you enter the building. Opposite it are the stalls for the clergy and choristers. There are the usual lecterns. The altar proper is chaste, its fittings are rich, and on the great festivals of the church, it is grand and impressive. In the past the cathedral of Panama was very wealthy. Its figure of the Virgin was covered with precious stones and pearls, these being largely votive offerings, and coming from the Pearl Islands in the gulf. Its service was of the purest silver and gold. Following the expulsion of the priests and the sisters of charity it was despoiled of its

wealth, and while no doubt a great deal of the church property reverted to the State, it is claimed, and I think with reason, that many of its treasures in gold and silver and precious stones enriched some of the despoilers. The gold and silver went to the melting pot, and the jewels—ah! *Dios sabe*—the Lord knows; certain it is that they were lost to the church and failed to reach the government treasury. The side windows are high above the ground and doubly recessed, owing to the very thick and massive walls.

In connection with this old building there is an underground way passing directly under the main square by way of the convent already described, to the old sea battery, or extreme point of the city looking seaward. It is said that these underground ways were especially devised to allow the besieged, if in danger, to escape from one point to another. I have never been in this underground passage, but I am well acquainted with a gentleman in Panama who has been in it and who has traversed it for some distance. The great earthquake of September 7, 1882, threw a part of the façade into the square of the cathedral, as well as some of the saints in the niches. The pretty arches within were cracked and the tile roof was badly damaged. This church, in common with all the others at Panama, is covered with red tiles—a species of oval tile made in the country. “Its front has been renovated and yellow-washed by the Panama lottery. Fact! There is nothing like being ‘solid’ with the church. The devil having repaired the church—I really beg his pardon, I mean the lottery—it gives one a new mental study.” *

There are a number of minor points regarding this building, which while not architectural, at least are amusing and true. Once a lot of English Blue Jackets were on shore on a spree, when they lassoed some of the saints and hauled them into the Plaza. You can fancy the horror of the faithful at this sacrilegious act of the gringos.

* The Gazette, Montreal, April, 1888.

This modernizing of the cathedral with yellow-wash and blocking it off into squares, seems little better than vandalism. All of the stonework has been buried under the yellow-wash, while the towers retain their old appearance.

The towers of the cathedral are guides to mariners, and are set down in sailing directions.* The southeast tower of the cathedral leans outward a trifle; due, no doubt, to repeated earthquakes. The old, old tower of the Cathedral of St. Anastasius at old Panama also leans, probably from the same cause.

In the past, evening marriages at the cathedral were the fashionable thing. I have attended several. The building lights up beautifully, as there are rows of gas jets from capital to capital of the columns. For very fashionable weddings the military band is present, and as the building is open to all, everybody could attend. Well do I remember one of the first weddings that I attended there. It was a very fashionable one. The military band was stationed at one of the side aisles near the main entrance. The masses had crowded into the building. By the masses I refer to the Indians and blacks and their descendants—negroes and mulattoes. I group the two, as there has been a great blending of the races on the Isthmus. The building was full, and they crowded up to the very chancel and to its rail.

After the marriage the band played the congregation out, when a reception was in order. Weddings in Colombia are not followed by wedding trips, for they know nothing of them. The happy couple are married, a reception follows at the residence of the bride's parents or relatives, when a few intimate friends of the family escort the newly married pair to their new home.

Before saying good-by to the cathedral something about the midnight mass there on Christmas eve may be interesting. I remember a Christmas eve—a clear, bright, moonlight night without a cloud in the blue vault—a grand moon like a mass of molten silver float-

* "South Pacific Pilot," Imrie & Co., London.

ing above. Within the church and sitting on the stone floor were hundreds of women, negresses, mulattresses, and children of both kinds, some alone, others in little groups—all in their Sunday best. Such of the women as could afford the luxury of a Spanish mantilla had one thrown over their heads. Among the late comers I noted a mulattress with one of these historical pieces of drapery thrown over her head. I detected minute flashes of light of a metallic lustre, and realized she had on some of those Brazilian beetles that emit that peculiar phosphorescent light. These beetles are caught, have hairs attached to them and are fastened to the mantilla. Their intermittent flashes of light are attractive, but I fancy the majority of people would not be desirous of having such lively companions in such close contact with their persons, and would prefer to be the sole inhabitants of their vestments.

The church of San Juan de Dios, or St. John of God, occupies a corner in the heart of the city. It is a small, substantial building much of the type of San Felipe Neri. It has a small yard in front enclosed by a substantial stone wall and iron gate. Its front is not attractive; although it has one of the old time Moorish towers. It had ceased to be a church long before I became a resident of the Isthmus, and when I became acquainted with it it was a theatre, within which I first saw the Spanish plays. Later it was a warehouse, and then its face was built in, and to-day no passer-by would know that it was in existence.

The ruins of the Jesuit College, on Calle San José, or St. Joseph Street, are extensive and extend along the street for fully three hundred feet, one end of the college making the corner diagonally opposite the church of San José. This college was completed about one hundred and fifty-six years ago. It was a lofty and substantially built edifice, five stories high. The main entrance on St. Joseph Street is still imposing. There is the huge doorway with side columns, terminating above in a graceful arch, and above the keystone of the arch there is a bleeding heart, the symbol of the Company of

Jesus. It had just been finished and a guardian was in charge when the great fire in March, 1737, that destroyed the churches of San Francisco and Santo Domingo, burned it, together with some hundreds of the most important houses in that section of the city to the ground. The only church that escaped the fire in that part of the city was San Felipe Neri. It is said that the college was connected with the seashore without the walls, by a subterranean passage. I am of opinion that tradition in this instance is truthful, as time and again I have seen a subterranean way passing under the old quarters or cloisters of the priests of San Francisco. Certain it is that just beyond the Plaza Triompha, not far from the ruins of the college, and just within the old sea-wall near the moat, the arch of a covered-in way could be seen a few years ago. These, the underground ways, are said to have been built to allow the inhabitants or besieged to escape if pushed by their enemies. Close thinkers, however, may have other views regarding the matter, and ask in a highly practical way, why people should wish to escape from a city that was a first-class fortress. It is also said that in recent years a part of the wall of the college fell, and within a hidden room there was found the skeleton of a female and a child. Persistent inquiry on my part failed to corroborate this; even the typical oldest inhabitant could only repeat the idle tale.

The old church of La Merced faces the city walls. It stands on the left of what was the old land gate entering the city. The front of this remarkable church in early days must have been ornamental, as despite the corroding marks of time and climate it claims and fixes the attention of anyone interested in such matters. It is of a pure Moorish type, the stone used being that earlier described. There are the usual colossal doors opening in the centre—massive things swung on the most ponderous of pivots and made bullet and arrow proof, as things were in those early days. On either side of the doors are rows of columns. Above are windows with a central niche for a figure of the Virgin, the façade

terminating above in a gable; and built into the outer walls on either side are Moorish towers, all of stone with the usual stone capitals. In these towers are many bells lashed to cross-pieces,—bells that are beaten, not rung. A few steps lead up from the street to a little terrace in front of the church, and on either side of it are two pure Moorish chapels, all of stone, including the roofs and the miniature domes. That to the left, as you face the church, is a mortuary chapel and belongs to an old Colombian family. On looking in through the spaces in the iron door one sees rows of marble slabs marking the tombs. The corresponding chapel, or that on the street, is open all the year round. It consists of a room of say 15 feet by 15, with a plain altar at one end, over which hangs an ever burning lamp. It is claimed by the faithful, and I have never heard the statement questioned, that this lamp never has lacked oil, nor has it gone out, for nearly fifty years. Within that vaulted room the lower classes may be seen at prayer, and many flock thither at night. Almost without exception they are colored people. At one time this church was very wealthy, and in the little chapel the faithful deposited their votive offerings on the altar. I may state for a fact that the value of their offerings mathematically corresponded with the risks that they were about to run. When going off on some particularly dangerous voyage or some inland venture, they would deposit nuggets of native gold and pearls of considerable value, the latter from the islands of the Gulf of Panama, visited by Vasco Núñez de Balboa. These chapels are built on the corners of the church, and with its main entrance they form the three sides of the small terrace in front of the church, the street making the fourth. Along the side walls on the main street, or Calle Real, the Royal Street of early days, there is a huge side entrance, flanked by two small niches. The doors here are studded with brazen heads, and the equivalent of two ponderous handles is found in brass angels. My attention was specially drawn to them from the fact that they were angels of the male sex. This was a new idea to me.

All along that side there is a terrace a few feet above the street, which is kept in position by a low wall. At the corner most distant from the chapel is a stone bearing a huge coat-of-arms. In the upper part of the side walls in that vicinity, among the rough masonry, several cut and dressed stones have been built in. One bears the word *Virgo*, and on another is the word *Gloriosa*, and on the rear wall there are a number of dates. Some of them are inverted. These things caused me much speculation previous to my making the churches a matter of special inquiry; but my old friend and teacher Senor Don José Ospino, formerly a professor in the Seminary of Panama, explained them. I am greatly indebted to him for nearly all of the knowledge I possess of the churches and ecclesiastical ruins of Panama. He accounted for the inscriptions, inverted and otherwise, in the side and rear walls of La Merced, by telling me that following the destruction of old Panama some of the ecclesiastical buildings were taken to pieces and their material carried over four miles to modern Panama, there to be used in building. Thus the modern church of La Merced was largely built of material from its namesake of old Panama. The latter was the oldest city on this continent—I mean the oldest city inhabited by Europeans. Within, the church of La Merced looks cheerless, and it looked very much so prior to the great earthquake of September, 1882. Its walls and deeply recessed windows and cornices were badly damaged; but later the rents and seams were filled, and the whole was whitewashed. Two of the specialties of La Merced are the great service on the eve of Good Friday, with which my readers are already familiar, and a fall procession in honor of Nuestra Senora de la Merced. In olden days the latter was one of the most magnificent of the festivals, thousands following the procession at night, carrying blessed candles in their hands. High above the main altar there was a date, but between time and whitewash it has been very nearly obliterated. In age this building ranks next to San Felipe Neri.

The Seminary of Panama was destroyed by fire, and

all the early books containing the history of these churches were lost. Many of the clergy officiating there to-day actually know nothing of the history of the buildings in which they conduct services. But for the fact that my old friend, Mr. Ospino, is a faithful son of the church and a most intelligent gentleman, I never could have got my information. In strict justice to him, I must say that some of the theorizing regarding those underground passages is not his. All of the churches, church ruins, chapels and the convent are within the city proper.

Brief allusion has been made to the Bishop's Palace. It faces the main Plaza and is on the site occupied by the former palace, which was destroyed by fire. It is a very handsome building of a modern style of architecture, three stories high, covered with a red tile roof, and occupies a whole block. On either side of the main entrance to the building on the Plaza, are a number of shops. In fact, the basement is made up mainly of them; and the back part of the building is divided up into rooms and rented to suitable tenants. My quarters were there for a long time, facing on Calle de Paez. The residence of the Bishop of Panama is on the top floor. A number of his clergy also live within the building, as well as some divinity students. The bishop has a boys' school. The building has the small central patio or court, generally found in all buildings of note.

The Church of St. Ana has been referred to earlier; it gives its name to the Plaza or Square of St. Ana. This old church without the walls—for it is one of the oldest—has a desolate and poverty-stricken air. In front there is a small terrace or elevation made by a low wall, reached by a few broken stone steps; at one time it had handsome columns on either side. The entrance to the church is a huge door. It has a pure Moorish tower on one side and the restos or remains of another opposite. Above are a few windows. The building is of stone, like the cathedral. Within it is huge, barren and cheerless. Substantial hard wood columns run from the floor to the roof. Its altars possess nothing worthy of note. There

are the usual Stations of the Cross and a high pulpit. The grand altar is unattractive in itself, but some of its old, hammered-out silver service greatly interested me,—work made nearly two centuries ago. Many of the things really were curious, and the book-rests were particularly worthy of notice. They had been hammered out of sheets of virgin silver and backed by the famous hard wood of the Isthmus, which is dense and reddish in color. The custodia there has an interesting history, for it goes back into that opulent, dreamy past, and is surrounded with associations of the old nobility of Spain. Thanks to my friend, the reverend Father Sanguillen, together with Mr. Ospino, I examined the old place carefully. Just in front of the main altar are a number of perforated slabs, and below are vaults that have been closed for nearly a century and a half. It is said that they contain the remains of the founder of the church, El Conde de Santa Ana, or Count St. Ana. This building was erected at his sole expense. I never could obtain any satisfactory evidence as to what was below. In the floor are a number of inscriptions and coats-of-arms, so old in many instances as to be almost illegible. One huge coat-of-arms I got a tracing of for it had been cut in a slab of stone—a large affair—and the incutting was filled with molten lead. It was that of a titled family, as the crown of a marquis indicated, and there were many quarterings. In the street adjoining this building there crops up what looks like the upper part of an arched way which leads directly towards the church walls, but I never could get any information about it. It probably is the top of a subway connecting with the old vaults. It may be that in that long, speechless past—as the old records are all destroyed—it connected the church with some clerical residences on the opposite side; but this is only personal conjecture. At the back of the church on that same street, a substantial, but narrow stone stair leads to a narrow door opening into the sacristia or vestry. Above the latter are some rooms of the clergy, and in them the reverend Father Sanguillen resides. Time and poverty have wrought sad havoc with this old ruin; a

contemplation of it is enough to give one a fit of the worst kind of tropical blues. On the other side, and attached to the main body of the church are the ruins of former quarters of some of the clergy.

The last chapel or church that I shall refer to is that facing the Quinta Santa Rita, the property of Monsieur Leblanc. This building was a chapel of ease to the Church of Santa Ana. Before the earthquake of 1882 it was little better than a ruin and its body was roofless. There was an old tower without any bells, and the back part of the edifice, or what had been the vestry, had been covered in and was used as a small chapel. Affixed to a stout piece of timber near the entrance was a small bell that was hammered at intervals. A small, but exceedingly poor congregation of colored people attended there. The earthquake of 1882 destroyed the old Moorish tower, which fell outward and demolished some sheds in which some of the blacks lived, which they had barely vacated when the roof and tower came in. A romance is connected with this ruin near the foot of Mount Ancon. Once upon a time, as the story books have it, this church had for its padre a remarkably handsome and talented Spanish priest, who was as good and virtuous as he looked. A wealthy Spanish countess who worshipped there, transferred her devotion from the things above to the padre in person. It is said for a long time he was unconscious of her admiration. Later, he became aware of it and manfully ignored it. At last the fair one declared her passion, and great was the shock to that virtuous priest. He warned her and expostulated in vain on her wickedness; her infatuation increased and only ended when he threatened to denounce her to the Inquisition, then at its zenith in Carthage. The terrors of the latter awed her, and he died as he had lived—good and virtuous. This is authentic, and I could give names, but refrain from doing so. I may also add that it is the only instance of the kind that I have heard of in which a priest put such delightful temptation behind him. He and the old priest, the savings of whose lifetime amounted to four hundred

dollars, are well worth mentioning as exceptions to the rule.

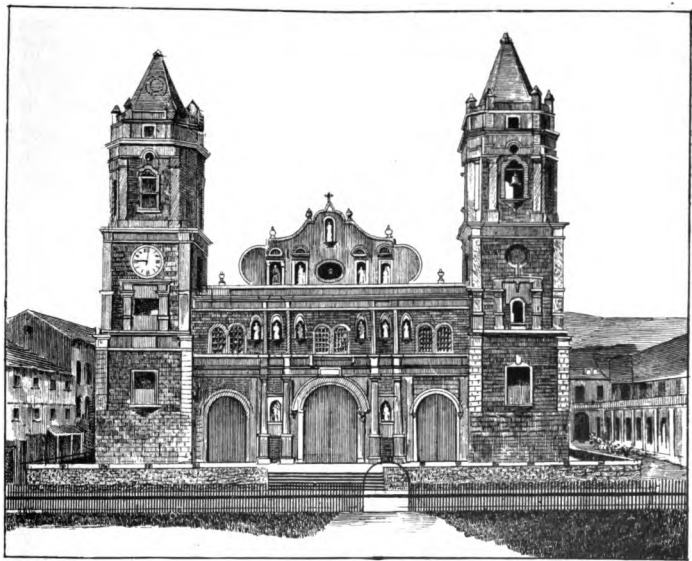
Apropos of church records, those of Santa Ana in part have been saved. I found in the vestry records much that was interesting, particularly in the extracts regarding the baptism of slaves, nearly all of whom were Indians who took the names of their owners.

The tinkling of a sweet toned bell often strikes the ears of the dwellers in Panama. It is a well-known sound and precedes a procession from any of the churches when the Host is carried to some dying person. It is a solemn sight at all times, but on a dark night it is most effective. Please place before your mental vision one of the narrow streets, with the old buildings, and in it a procession led by a bareheaded boy carrying the bell. Following him in pairs are choristers in surplices, of course all uncovered. These with men and women carrying lighted candles form the advance guard. Then come the acolytes supporting a rich canopy under which is the priest, in the rich vestments of the Romish Church. In his hands he carries the custodia containing the Host, covered with a pure white cloth. He is followed by others, all bearing candles. On they go, turning around some corner and disappearing from sight, but long after they have gone, the tinkle, tinkle, tinkle of that sad bell is borne to one on the night air, telling of some soul seeking to quit its earthly tenement. It goes without saying that all uncover as it passes.

CHAPTER VII.

SUBURBS OF PANAMA—THE SAVANNA—THE CHURCH OF SAN MIGUEL—A GLIMPSE OF THE PAST.

THE suburbs and outskirts of Panama have nothing in common with the delightful fragrance that welcomed me when off Colon. It would be strictly truthful to say that the suburbs are both common and unclean, and in many places grossly offensive to the eye and smelling unto heaven. The civil authorities of Panama are to blame. Money enough in all conscience is exacted from the merchants and others to keep things as they should be. They are very careful about the collection of the money,—but there it ends. Well do I recall a scene during my visit to the Isthmus in February, 1886, when I saw Count de Lesseps inspecting the canal plant under the spiritual guidance of a German bishop, M. Thiele, of Costa Rica. A lane leading from a main thoroughfare to the seashore, back of the Protestant cemetery, had both of its sides lined with piles and piles of rubbish and old bedding, or that on which people had died. The natives in Panama and in the Spanish West Indies, after a death, throw away cots, mattresses, pillows, and often the eating utensils of the "late departed." As many on the Isthmus, both native and foreign, die of yellow fever and small-pox, this practice simply means a constant perpetuation of the infectious and contagious diseases named. The authorities never do anything more than publish an item upon reform in *La Cronista* or *La Estrella de Panama*. This is deemed ample, as it gives the people something to think about, and yet these authorities fondly fancy that they are the sanitarians of the century. I remember an old well near the gas works, one of those huge stone wells which the Spaniards



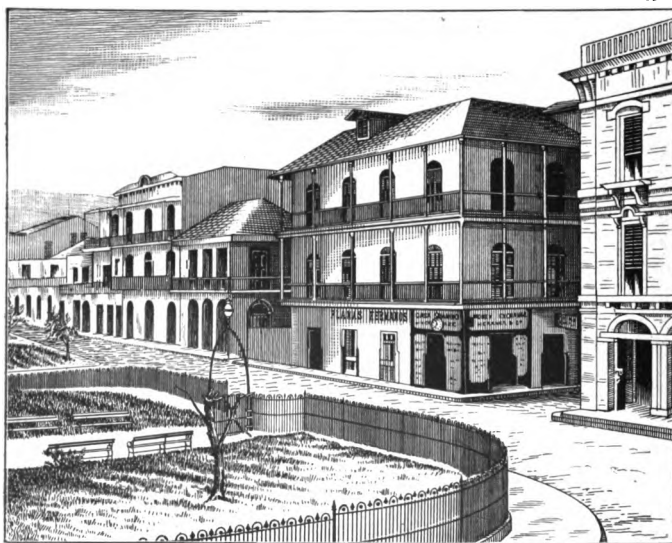
CATHEDRAL, PANAMA.

were so fond of building. That well had been filled in with just such bedding, and at last it coned up above it. That is their way, and a very bad one it is too. We are told that the cackling of a goose saved Rome, but if the cackling of Colombian birds could save Panama, I don't think the cackle is in them. Apropos of the Holy City, one reads that all roads lead to Rome. At Panama there are two main roads; one leads to the cemeteries and the other to the Canal Hospitals. Within the city there is but a single walk away from the din and noisome smells. This is the old battery, and an excellent walk it makes. The old Spanish guns disappeared in the long past, and it is said that all that were of brass were sold. There, perhaps thirty feet above the sea, is a large open space, which is well cemented and smooth. Its sides are guarded by walls many feet thick and they rise above the floor some three feet, with stone seats on either side. The battery forms the top of the prison of Panama. The view therefrom is very interesting. Looking back over the ground that one traverses to reach it, is the city with its old Moorish towers and red tile roofs; and back of this again is Mount Ancon, five hundred and four feet high, well wooded and attractive. Following the scene along to the left is the Indian hamlet of La Boca, at the mouth of the Grand river. Back of it are hills and in the distance the Andes of South America. Again, allowing the eyes to follow the coast line, more green and mountains are seen. Along the horizon oceanward pretty islands stand out and dot the sea. Continuing the circle, is a long stretch of water and on the other side the distant shore forms that part of the Gulf of Panama. Following the shore line the ancient tower of St. Anastasius, at old Panama, will be seen, the sole landmark of that once powerful city. During my long residence at Panama I made it a rule to spend an hour a day there—from five to six in the afternoon—and have a little pure air. It was a pleasant and profitable time. Strange to say, save on a Sunday when the band plays there, very few visit the place, and the few were almost without exception foreigners, the

native Panamanians being great stay-at-homes. During the grand moonlight of the dry season that spot was doubly attractive. There was a blending of all of the richest mountain scenery, ocean, islands—all bathed in the purest of tropical moonbeams, to be enjoyed within sound of the sea.

The road leading to the cemetery is not popular, and as "gringos" or foreigners "get there" so often involuntarily, it has no charm for them. The road to the savanna, past the station and canal hospitals, once beyond the city limits, is pleasant and attractive. There one gets out into the open. I want you to picture to yourself a huge stretch of mesa or table land, as smooth as possible, rich in tropical green and stretching for miles in all directions. It is broken here and there with clumps of trees, and an occasional rancho or native hut, or by some summer residence. The whole closed in, in the distance, by the Andes. Many people used to go out there for drives to get a mouthful of pure air and leave malodorous Panama behind. During the dry season many occupy summer residences there. On that plain to the right as you leave the city, there was fought one of the most remarkable battles on this continent; the first battle, properly so called, by white against white. There it was that the bold and fiery Welshman, Henry Morgan, led his buccaneers against, and put to flight the flower of the Spanish cavalry and infantry, and then captured old Panama.

The Church of San Miguel is on the savanna not far from the city. Its front is plain, and in the upper wall are two broad niches or openings, within which are strung the bells. It is a very plain edifice and is covered with that horror of horrors, yellow-wash. Why it should be put on churches when so many other things seem to demand it, is not clear.



On right, BISHOP'S PALACE.
On left, OLD-TIME HOUSES, PANAMA CITY.

CHAPTER VIII.

LIFE AMONG THE LOWLY—RANCHOS ; THEIR CONSTRUCTION
AND INTIMATES—MODES OF LIVING—NO DIVORCES OR
SCANDALS—NATIVE POTTEBY—PRIMITIVE OR PASTORAL
LIFE.

THE Indians and the negroes in Colombia away are not greatly given to marriage. They simply get mated. I use the word advisedly. The women of the poor or laboring class do not care for matrimony, their stated objection being that if they were true and lawful wives their husbands would ill treat them, whereas as long as they are mated, the man will be on his good conduct; to one who knows something of the history of the Indian tribes and their African allies in that part of the world, there is much sound reasoning in their view. These women know the men of their class thoroughly, and they deem matrimony little better than serfdom. Now, how do they live? With them less "depends upon the liver" than with their white brethren and sisters. I shall consider one couple of the hundreds and hundreds. I shall call the man Juan or John, and the woman Maria or Mary. It is understood between the high contracting parties that they are to live together; the matter is arranged by what may be deemed their engagement. He builds a native rancho or rents one, and in it they live as man and wife. As a rule the women are faithful—strictly so. In time, if they fail to agree, they separate. There is no vulgar divorce or washing of the family linen in court and in the press to shock the refined and act injuriously on the growing minds of children; they simply divide the assets of the partnership—he takes one-half of the children and she the other half—and then they part and form new unions, if they think fit. There

is a simplicity and decency about the matter in those primitive, uneducated people that is really delightful. They never have heard of the great Napoleon and his famous, "*Il faut laver son linge sale chez lui.*" I think that these people are natural philosophers. But Juan and Maria need a house to live in and Juan builds a rancho.

The native rancho or hut deserves description, both for its simplicity and from the fact that it is earthquake-proof. Its construction is of the simplest. Four suitable trees, four to six inches through are selected. They are cut down with machetes. Above the branches are lopped off and got rid of. Where the tree forks, that section is retained, giving a Y piece. These ranchos or huts, as a rule, are square. The four corner posts have their lower ends deeply buried in the earth, which is then carefully packed down. Pieces cross in front and rear from Y to Y. On top of these are laid the side pieces, which are lashed with withes in a deft and secure manner. Then comes the construction of the roof, which terminates above in a gable. More small saplings are prepared, their upper ends being cut off at an acute angle. When these are put up the latter are in apposition. Below where they overlap the cross-pieces they are notched, and oftentimes they are secured to each other without a single nail. Pair after pair goes up; then a ridge piece is lashed to them. This completes the frame. Long slender limbs of trees, or bamboos, are selected, and are lashed horizontally to the rafters, equidistant from each other, say six inches. The thatch may be of three kinds: native grasses, palm leaves, or oleanders. On the Isthmus of Panama the second and last are generally used. They begin the work at the bottom. Bunches are selected and are folded in the middle. The fold passes over the first bamboo rod and comes out below. It is put on bunch by bunch until the first row is completed, and it is the equivalent of a row of shingles or tiles. Next they prepare the row above, one overlapping the other, until the topmost rows are reached. Here, with that native ingenuity that characterizes all their

work, they dispense with weather-boards and by stripping trees of their bark or portions of the palm, they secure broad, pliable bands of substantial material. This fits accurately all along the gable. At times, to prevent this from flying off, they lash Y-shaped pieces together and weight them down with stone. The majority of the ranchos are built without a nail, the machete doing it all.

In many instances the upper story or attic is the sleeping apartment. When so used they run cross-pieces from the side pieces and make a floor of the small limbs of trees, or better, of bamboo. A hole or hatchway is cut in the floor. A stairway is made out of a piece of a tree, perhaps twelve inches thick. It is laid on its side when notches or steps are cut in it at an acute angle. This piece of timber, when its foot-piece is buried in the ground rests at an angle of about thirty degrees with its top projecting into the attic; hence a stairway. More suitable material is selected for the sides of the hut and is put in vertically, or horizontally, as no particular architecture obtains. They are literally the architects of their own fortunes and their own houses. These are the equivalents of scantlings. The sides are often ingeniously made in split bamboo plaited after the manner of basket making, and the chinks are filled in with mud. When done windows are made. Of course the door is in front. Occasionally these houses have a back door. The small machetes are used for hewing out rude planks and from these they make their doors and blinds. It is thus that a cholo or Indian, or negro makes a home for his mate. At times there are partitions within, made of bamboo. Such edifices are not noted for their privacy. A little enclosure is made around it, generally by cutting down young saplings. Strange as it may seem, the latter commence budding almost at once, and soon they have a live hedge. Now I have domiciled the couple. How do they live? say you. Capitally. Juan is a natural sportsman. The forest abounds in small game; there are parrots, monkeys, native pigeons, iguanos—the latter a species of lizard—together with small deer.

The waters along the coast are full of fish, turtle and oysters. Thus they have game and fish. Dame Nature has two kinds of ready made bread for them; first, the banana, or lazy man's fruit; next its first cousin, the plantain, rich in sugar, which when roasted is most nutritious. If he wants an intoxicant—and the early settlers had their spirituous drinks long before the Spaniards arrived—he cuts down a species of palm, hews out a central gutter and into it flows the sugary sap; fermentation takes place, and a white, milky intoxicating fluid results—a sort of natural milk punch with all the properties of the other kind. He thus has his game and fish and headaches already for him.

As the country abounds in clayey, sandy soil he can make his own pottery and make his own fire for baking. Thus, kitchen utensils are ready. For the equivalent of spoons and knives he cuts gourds into elliptical pieces. Small gourds make famous bowls, baskets and the like; many of the larger ones will hold nearly a quarter of a bushel. They sleep in hammocks, French fashion, one by one. Sometimes a species of bench or bed is made of bamboo; over it they throw a hide and sleep thereon. I can say from personal experience that they are most uncomfortable couches. The hammocks are generally woven by the women; and, apropos of the dexterity of these people, we must bear in mind that the early Spanish discoverers found among the natives a species of well made cotton cloth.* Tables are easily constructed. Sitting in a hammock is the equivalent of a chair with all the advantages of a rocker. Logs of wood are also used for sitting upon; they are slightly hollowed out in the centre, and they are not at all bad in their way. Having set them up in housekeeping, what is the woman's share? She takes care of the house and the children, while Juan provides food. Raiment for the children is not deemed necessary, for they don't have any as a rule until they are five or six years old.

Man, like other animals, consumes weeds. Juan likes

* "Life and Voyages of Columbus."

tobacco. He can raise an excellent article for himself. A fine grade of tobacco is grown in Colombia; it is known as ambalama. The early Spanish discoverers were greatly astonished to find smokers among the Indians of Cuba, as smoking previously was unknown to them.* In the cities men make it up into *poco tiempo* cigars. This literally translated means "a little while." It is a small cigar, about three inches long, sharp at both ends and bellying in the middle. Some years ago they could be had in Panama City for ninety cents a hundred, but that was before the advent of the canalers. Cigar-makers generally kept them in large carboys, in order to allow them to mature. In the country the women make the cigars, and generally smoke them too, as they have one called the *cigarro de las mujeres*. These women's cigars are the counterpart of the long "whiffs" known to smokers. Women smoke in a peculiar way on the Isthmus, which I have noted time and again; they hold the lighted end in the mouth. At first sight this seems an extraordinary statement, but it has the merit of being an absolutely accurate one. The other end is used for lighting the cigar when it is reversed. As to what, if any, benefit is derived from this method of smoking I do not know. It is certain that it must require great dexterity to smoke in that way, and to avoid burning the tongue and the delicate mucous membrane of the mouth. One would fancy from general knowledge that this style of smoking would lead to no end of diseases within the mouth, but I have never heard of its causing anything like cancer.

If Juan and Maria want coffee they can grow it. Coffee is the universal drink and tea the exception. A native tea plant is found in the United States of Colombia that is said to be a near relative of the Chinese plant, and latterly, I believe, some scientific investigation has been made on the subject. Having tea and coffee they want sugar. Such climates, as my readers are aware, are the natural homes of the sugar cane. That succulent

* "Life and Voyages of Columbus."

and strongly fibred stalk serves a threefold purpose; it yields sugar and fuel, and the stalk when chopped up is given to cattle. In many parts of the interior cattle are fed upon it for days together when making long trips, and it is said they enjoy it. A native sugar mill is worth a brief mention. It consists of three upright cylinders, the outer ones being five or six feet long. They are twelve to fifteen inches through, and are made of guaiacum or *lignum-vitæ*, a densely hard native tree. The central cylinder rises above its fellows some eighteen inches or two feet, and through its upper part a substantial piece of wood is rung, one end projecting twelve or fifteen feet beyond the mill. This is at a right angle with the cylinders. The central cylinder has a number of square holes or depressions, and the outside cylinders have square blocks of wood let into them, which are the equivalent of cogs. These square cogs play in the recesses of the central cylinder, and one of the cogs is always in one of the openings. The motive power is furnished by oxen, and by a native attachment they are fastened to the long arm. As the oxen walk round and round in a circle the cylinders revolve, and as they are very closely set together in a most substantial frame, the cane passing between them must undergo strong pressure. The juice runs into a wooden tray, from whence it flows into a large receptacle below. Then comes the boiling process. Generally a huge, old-time iron kettle is used, set in crude masonry. The fuel used is dry magass or bagass, the name given to the dried cane trash. In some places one name obtains, and in others the other. The sugar boiler oftentimes is some fearful old crone who looks like a veritable witch presiding over some seething caldron. Generally she sits perched up on a seat or pile of stones, and in her skinny, bronzed hands she holds a dipper of native manufacture which consists of a long piece of wood with a half of a gourd fastened to one end. The handle of this dipper passes through the gourd bowl. She constantly keeps filling the dipper, lifting it high in air and allowing the syrup to flow back slowly into the caldron. Partially boiled cane juice

when almost cool is a pleasant and sweet drink, and after wandering through the forest in search of curios, I have found it excellent. Strange as it may seem, it slakes thirst. The boiling completed, the sugar has to be run into moulds. The latter are of a very simple type. A block of wood, three or four feet long, has a series of cup-shaped excavations on its upper surface. These are filled with the boiling sugar. It cools, and cakes of sugar, weighing about a pound and a half apiece, are obtained. When these are wrapped up in plantain leaves, they are ready for the market or domestic consumption. They are a pure brown sugar, most agreeable to the taste, and of great saccharine power. To all who are fond of sweets a little of it is excellent.

If Juan wants corn he can grow it with ease, for the country produces a variety of Indian corn, which is a very coarse article. With the majority of these people the corn is reduced to a coarse powder by beating in a huge wooden mortar with a heavy wooden pestle. This work falls to the women. Their way of baking it is simplicity itself. First it is made up into a paste with water and is thoroughly kneaded. It is then spread out and laid between stones that have been heated in the fire. The result is large corn pancakes. Corn is also fed to their horses and mules when they have them.

These people have a lot of domestic remedies of their own, and the secrets of their pharmacopœia are unknown. It is certain that some of their remedies, while they might be good for horses and cows, produce tremendous effects upon human beings. A shrub grows all over the Isthmus that has a plum-like fruit, and resembles a large green gage, having within it at maturity four black seeds. This plant is a first cousin of that yielding croton oil. Juan considers half a bean a dose in certain cases. Occasionally, they take a whole bean with a little water—with tremendous results. I cannot describe these further than to say that unless the medicine all but ties them up in a double knot they are not satisfied with the result, and consider that they are not well treated.

By the way, I have omitted to say that a native climber there with a long hard cover, resembling a huge cucumber, has within it a substance, which, when divested of its seeds makes an excellent sponge. If they are really anxious to keep their skins clean, a native plant called the jaboncilla gives them a natural soap which produces an abundant and soft lather. Many of the natives living near the water bathe, and, as I have previously observed, there obtains a delightful naturalism all through that country. The men and women may be seen bathing in streams quite near to each other, and they wear a bathing suit that fits them admirably and gives the same clear idea of their classic proportions that one can get at English and American bathing places. The peons on the Isthmus bathe in that closest of tailor-made garments—their native modesty.

The cooking is largely done in iron pans and earthenware pots and it is of the simplest. They are very fond of rice. This is generally cooked in American lard. At times they add to it *tasado*, or dried beef. From the forests around they cull chillies and aromatic leaves and make toothsome, nutritious dishes. The rice almost takes the place of bread. Native rice commands a higher price on the Isthmus than the best selected Chinese varieties, the best of it coming from the department of Chiriqui, adjoining Costa Rica. I had almost forgotten a most important item of their diet—*frijoles*. Under this name, perhaps few of my readers will recognize the brain food of cultured Boston, for *frijoles* is the equivalent of beans.

In the mountains wild turkey can be found, and a very pretty bird it is. It is almost the size of our domestic turkey, and is capital eating. A turkey is called *pavo*, on the Isthmus. In the republic of Guatemala, in Central America, it is called *champepe*, an Indian name, and when you reach Mexico it has been converted into a *guacolete*. The Colombians capture these birds and domesticate them, and they have done the same with some species of wild ducks. A Colombian pig is a remarkable spectacle, for he is hardly bet-

ter than a black spectre—long haired, sharp snouted—a very ghost of his domesticated cousin. In the mountains are many peccaries, a diminutive species of wild hog, which are excellent eating. In some parts of Colombia hogs run wild and after a time become very ugly and dangerous. The boars will rip a horse open or attack a man upon the slightest provocation.

Apropos of boar hunting, one of my friends, an Englishman, left his vessel, the cable ship *Silvertown*, when off the coast of Ecuador, and with a party went on shore to shoot wild boars. After a great deal of work one was sighted, and it was my friend's good luck to bowl him over. It was considered quite an event and he was the hero of that shooting party. Telling one's friends in Old England about shooting wild boars in South America sounds remarkably well and savors of unknown climates and tropical forests, while the whole is spiced with a little danger. But the next morning an irate native came on board and insisted upon having six dollars for his domestic hog that had been shot by this Englishman. Great was the disgust of that tropical Nimrod, and a mere mention of wild boar to J. G. for the rest of that trip resulted in an atmosphere that was absolutely cerulean.

Juan and Maria cannot freeze, as the climate is one of perpetual summer; and how can they starve when nature has done so much for them? Juan is a republican in name but a free-trader at heart. Of taxes and restrictions he will have none, be they war taxes or otherwise. In all matters relating to the party in power he is a mugwump of the first water. And he has the same affection for Chinamen that a Republican Senate has on the eve of a Presidential election. In matters of religion he is a free-thinker during life, but generally ends by dying a Catholic. He works for others when it suits him, but not otherwise. He scorns the daily paper and has no knowledge of prize-fights and cablegrams, but he dearly loves a cock-fight, and he calls upon all the saints in his Colombian calendar to bless his bird. He is a homeruler of the first water, and like the other members of

that class over the water, would rather have a row than otherwise. As for the rest of humanity, or the world at large, he cares little.

When one pauses to think over this primitive life there is much food for reflection. This people, little better than semi-savages when sober, and blood-thirsty when drunk, have a school of philosophy unknown to us. They manage their domestic affairs with ability, and by their quiet settling of conjugal rows, teach us highly civilized moderns a lesson that should make us heartily ashamed of divorce courts and their unclean revelations.

Juan and Maria have their own amusements. Dancing is a perfect passion with their class. They get their music from a species of drum, a mere wooden cylinder one head of which is covered over with skin. This is a lineal descendant of the African tom-tom. By beating it regularly, with alternate rolls, they get all the music they want. They dance endlessly, perspire profusely, and, if the whole truth is in order, smell abominably. Saturday night is the night *par excellence* for festivities. The dance is a species of *danzita* or a slow waltz. In it they introduce many features of the old time Spanish *cachuca*. To give my readers an intelligent idea of this latter will be difficult, without offending a hypersensitive class. I may say that traces of this can be detected in the dances of polite society in the Spanish West Indies to this day. While the peculiar movement referred to is modernized among the polite class, among the class to which Juan and Maria belong there is no suppression either of activity or of movement. They dance, make merry, and drink. If a violin can be secured, that is ecstasy and no mistake. The dance of dances is the "son." To the ordinary ear its music has no peculiar significance, except that it sounds like good dance time, but its effect upon the lower classes is simply magical. Even if they have been dancing for hours, and are exhausted, they seem to take on a super-human activity. The music seems to call all the animal instincts into play and it acts on the peon class in the

same way that the music of the voodoo dance does upon the lower classes in Hayti.*

Juan after a time follows his ancestors and dies. Then there is a Colombian wake—and an awful thing it is. My previous ideas of wakes had been derived from reading, and from seeing Dion Boucicault in the “Shaugraun.” A Colombian wake was a revelation to me, and the first one I thought would have been the death of me. It seemed as if pandemonium had got loose and I had been constituted the cyclonic centre. The body is laid out in a room in the rancho, or house, if they live in a house properly so called. Two candles are placed at the head of the bier, and two at the foot. At his head sits Maria, while around the sides of the room are relatives and friends. Whenever a new-comer arrives a wail of anguish goes up that is really dreadful to hear: I cannot describe it. This intermittent sorrow breaks out with the advent of every new arrival, and it lasts all night. The people at the wake are supplied with tobacco and anisado, or whatever it may be in the shape of liquor. The burial is simple. Where coffins can be rented for a small fee, as in the cities of Panama and Colon, the body is taken out in one and at the cemetery is enveloped in a sheet, and buried. In the country parts a simple cross of native workmanship marks the grave and Juan is at rest. The seasons come and go, the sunshine bathes the luxuriant vegetation; moon follows moon, and Juan like a fallen leaf is of the past. These burials among the lower classes in Colombia are simple and almost in keeping with our own ideas. But it is not so in Central America with this same class of people. Once while in Retalhelen, one of the coast cities of Guatemala, I was in my room in a wretched building, called a hotel by courtesy, when the music of a rattling polka reached me. I looked out of the window and saw a wholly novel sight. Below was a funeral led by a violinist and a couple of men with cornets, who were playing away as merrily as possible. Then followed a man with a child’s

* “Hayti;” St. Merv, Paris. “Hayti; or, The Black Republic,” London.

coffin on his head. Next came the mother, a small Indian woman, partially clad and staggering along under the combined load of *aguardiente* (ardent water) and sorrow. In Nicaragua coffins are carried on platforms, the latter being on the shoulders of men. On reaching the Atlantic coast of that Republic, some of my English friends in San Juan del Norte, or Greytown, as some call it, told me of the way in which children were buried there a few years before. Prior to the funeral the child was set up in a chair, dressed in his or her best, covered with flowers and placed opposite a window, where passers-by could see the body. At the funeral the corpse was placed in a chair and carried at the head of the procession to the burial ground. It was followed by friends, laughing, chatting and smoking. This revolting custom has almost died out. Speaking of burials in Colombia, there are peculiar stone altars that sometimes are seen in Colombian cities, in the fields, or by the roadside. They are built of masonry four or five feet high, and each is surmounted by a small cross. The altar is kept whitewashed. At the foot of the cross one or two skulls may be seen and a small recess or niche for a light. These strange looking things in odd places excited my curiosity at first. Generally one is put up on the exact spot where some one has been murdered in the past.

On certain holidays the faithful supply these altars with candles or with oil and tapers. When breezes blow, a sheet of perforated tin rests against the niche. To come upon one of these late at night in an out-of-the-way place, to any one of an active imagination, is very suggestive of bloodshed, victims, and all that is uncanny. I have done some thinking of that kind myself under these circumstances. As murders still are common in those countries, and were commoner in the past, many of these altars may be seen. Sometimes the crosses are decked with streamers. As I have said, the masses are ignorant and superstitious, little better than semi-savages. In Guatemala the same class of people think they are doing the Almighty honor by

discharging rockets called cohetes. They send them up by day and at all hours of the night. These countries teem with barbaric customs of this kind, of which the outside world has no knowledge.

The men and women of the peon class generally wear cotton goods; the women a simple short skirt with bodice above. They go about barefooted and bare-headed, for boots, shoes and stockings to them mean high civilization, and when they get into the towns and crowd their great splay feet into boots and shoes, their gait and faces often indicate their torture. The men, even when travelling in the forest, wear only a coarse leather sandal. This is a piece of sole leather, the shape of the foot, and fastened to it in much the same way as one would put on a snow shoe in Canada, save that one thong passes between the great toe and the next. In the forests they run many dangers from venomous snakes and often are bitten and die fearful deaths. I remember having seen a snake skin, the property of the late James Boyd, the former proprietor of the *Star and Herald*, of Panama, which was thirteen feet long and eighteen inches across. The snake had killed a man and later was shot through the middle. A very pretty snake is the coral snake: it is about eighteen inches long and its body consists of alternate diamonds of red and black. It is really a beautiful thing. Its bite is death. The Isthmus, like other tropical countries, abounds in snakes. During the time that my brother, the late Dr. George W. Nelson, was resident surgeon of the canal hospitals on the Panama side, one of the orderlies, a Jamaica negro, thought he would have a snake hunt within the hospital grounds. He was successful in finding the snake, but despite his dexterity, he was bitten between the toes and died the next day. Dead snakes for scientific study are all very well in their way, but hunting live ones would have no charm for me. Speaking of snakes recalls a remarkable circumstance that happened while I was at Panama. Bright and early one morning an officer from one of the ships of the Pacific Steam Navigation Company came to me.

He had been bitten on the fourth finger while on board of his vessel. The British Consul in Guayaquil, Ecuador, I was told had secured a large snake which was supposed to be of a new species. A case was specially prepared for the snake, and it was shipped to the Old Country to scientists for examination. The trip from Guayaquil, Ecuador, to the Gulf of Panama was uneventful. While in the gulf the young officer alluded to went on duty at four o'clock in the morning. On getting on the bridge he noticed some things twisting about on the stanchions. He investigated, and to his surprise found a lot of little snakes crawling up and down them and over the deck. It was one of these that bit him. The spot turned black, and he had shooting pains in the arms. As is usual under such circumstances, I injected a dilute solution of ammonia under the skin and gave it by the mouth, together with a pint of champagne, when he went to sleep and awoke feeling perfectly well. For days the arm was sore. His salvation no doubt was due to the fact that the snake was but a few hours old, for had it been otherwise no power could have saved him. The snake in that box was the mother all told of thirty-six of them. She and the box were thrown overboard, and the Pacific Steam Navigation Company thereafter refused such dangerous passengers. I sent a pair of the young ones in spirits to the late Prof. Spencer Bayard, in Washington, and he informed me that they were hooded vipers of the most poisonous variety. Mr. Taylor, an American residing in the Department of Chiriqui, State of Panama, has what he believes, and I also believe, is a specific for snake bites. It is a combination of native seeds and woods, specimens of which he gave me. A part of them I sent to Washington for investigation and gave the other part to a friend in Philadelphia who has been making the poisons of serpents a special microscopic study. I had heard of Mr. Taylor's skill in treating snake bites, and I saw a number of people that had been treated by him. It is my opinion that his treatment unquestionably has saved many lives.

In the Colombian forests the largest wild animal is the ocelot. It is a species of tiger cat, and varies in length from two to five feet. They are beautifully marked. These animals will not attack a man unless hungry; but when hungry or driven into a corner they are dangerous to a degree.

CHAPTER IX.

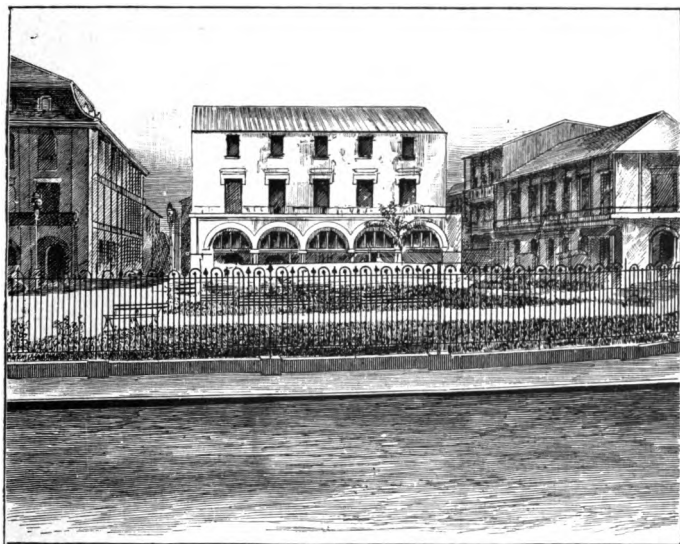
THE GULF OF PANAMA; ITS BEAUTIFUL ISLANDS AND OLD TIME PEARL FISHERIES—FATE OF AN AMERICAN PEARL FISHING EXPEDITION—POTTERY, STONE IMPLEMENTS AND GOLD ORNAMENTS FROM THE PREHISTORIC GRAVES—A SKETCH OF THE PAST HISTORY OF THE ISLANDS IN THE GULF OF PANAMA.

THE Gulf of Panama is noted for its islands. The early history is full of stories regarding them and the many gallant and daring exploits that have taken place on the shores and waters. The gulf is about one hundred miles long, and opposite the city of Panama perhaps twenty miles across. The modern city of Panama is situated at its upper end. The gulf is remarkable for its currents and tides, the latter rising and falling from sixteen to twenty-four feet, according to the age of the moon. "The Gulf of Panama, and the ocean for a great distance to the westward from its mouth, are notorious for their freedom from all breezes; the gulf lies, indeed, in the equatorial belt of calms, and sailing vessels can never make much use of the port of Panama. * * *

As long, however, as the question is merely one of railroad and steamship traffic, Panama may hold its own against the other Isthmus cities; but when the canal is cut the selected spot must be one that shall be beyond the reach of calms—in Nicaragua or Mexico." *

Owing to the doldrums at times, variable winds at others, and strong currents, sailing vessels have been two and three weeks beating up the gulf to Panama. Apropos of doldrums, I remember the case of the British ship *Straun*, a Canadian built vessel. She cleared from

* "Greater Britain," Dilke, New York.



THE CABILDO OR TOWN-HALL, PANAMA CITY.

Panama for Chili early in May in the year 1884, if I remember rightly. She got back to Panama one hundred and five days later. Upon getting out in the gulf she struck the doldrums and beat up and down. Once she got across the line, and for weeks was beating about latitudes four, five and six amid constant showers of rain, storms and puffs of wind. The captain, who was well known to me, had taken on provisions for one hundred days, more than enough to take him to Chili. These began to fail and the ship's bottom from being in those sluggish, warm waters, had become foul. The crew spent the greater part of their time in catching and torturing sharks. At last he had to put back to Panama. He had been at sea actually one hundred and five days from the time he cleared from off Isla de Naos. This will give my readers some idea of the doldrums, or region of calms, on that side of the Isthmus, which are one of the most serious drawbacks to any ship canal in that section. Of course I merely refer to sailing vessels. Steamship officers have estimated that at times the currents in the gulf run three to four knots an hour. I have known of a vessel making Panama, with a cargo of coal, being nearly a month beating up.

The islands nearest modern Panama are Isla de Naos and Flamenco, or Dead Man's Island. These are about three miles from the city. Practically, these islands make the port of Panama, for various steam companies have their anchorages there, such as the Pacific Steam Navigation Company, a wealthy and influential English corporation, the Pacific Mail Steamship Company, and others. At Isla de Naos, the Pacific Mail Steamship Company maintains a large resident staff of officers, skilled workmen, negroes and Chinese; the latter being navies. They also have extensive repairing shops there and storehouses. On the city side of the islands, on the sands, they beach vessels for cleaning. These are floated in at high water and made fast, and at low water they are high and dry, and gangs of men clean their bottoms and paint them. The growth of marine life in those waters is astonishingly rapid. I have seen, and sent

barnacles an inch and an inch and a half long to that well-known American scientist, the Rev. Dr. Samuel Lockwood, of Freehold, New Jersey. These barnacles had grown on the bottom of a sealer that had been cleaned in the Gulf of Panama and cleared for the Galapagos Islands, off the coast of Ecuador almost under the equator. She came back at the end of four months, when her bottom was so foul she had to be cleaned again, and I received some of the barnacles from her captain. Vessels engaged in that trade should be cleaned every three months, if they are to make good time and save their coal.

On the other end of the island the canal company some years ago put up a marine observatory. It is fitted with thermometers, barometers, a maregraph, and other self-recording instruments for noting the temperature, the rise and fall of the tide, and securing information of that nature. The Pacific Steam Navigation Company have a large hulk anchored off Flamenco which is used as a store ship, and some officers and navies live aboard it. Near these islands at dead low water there is excellent and safe anchorage. Flamenco, or Dead Man's Island, is within a few hundred yards of Naos. It is largely rocky; its southeastern face is a huge cliff, and on its land side, or that facing Naos, is the cemetery from which it takes the name Dead Man's Island. It is a well-filled cemetery too. There no end of sailors and officers have found final anchorage beyond the storms and squalls of life. Many of these brave fellows have been the victims of yellow fever. On the face of the island towards the city of Panama one sees a handsome monument, which was erected to the memory of the officers and men of the United States ship *Jamestown*, who fell victims to yellow fever while anchored there in the year 1858. Eighty of her officers and crew are buried there. She was sent to the North Pacific and kept there for two years. Then she was ordered to the Hawaiian Islands. No sooner did she get into a warm tropical climate than yellow fever again developed. Such is the vitality of the germs of that awful disease.

Some six miles from these islands are those of Toboga, El Moro and Toboguilla, or Toboga-the-less. The island of Toboga is about a mile and a half long by one-half to three-quarters of a mile wide. It is the loftiest island in that part of the gulf and its highest point is 908 feet above sea level. It is a very pretty place and a favorite resort for picnickers. On it are two villages; that of Toboga, which is the oldest, and Restingue. Toboga has an old time church with the usual Moorish tower. Ambitious people always climb up its narrow, gloomy stone steps, to reach the belfry, and there they obtain a magnificent view of the surroundings—and very picturesque they are. The church stands upon a slight elevation. Below and around it are streets of all kinds which are impassable for vehicles, being rough and bad. The houses are of the simplest—generally ranchos with a thatch of palm or oleander. There are some built of stone and brick covered with red tiles, the latter of native manufacture. The houses extend from the foot of the mountain to the shore. Part of the town lies in the gorge between two hills, and seen from the water the effect is very pleasing. Away to the left of the village as you enter the harbor from Panama is an extensive sanitarium, erected by the Panama Universal Interoceanic Canal Company, which has cost over four hundred thousand dollars. The canal officers and a few canal men are sent there to repair their wasted strength. The village of Restingue always had a charm for me, for it is essentially a native village and there one can study ranchos to his heart's content. There are Juans and Marias by the hundred. It has a very pretty grove that Tomes in his book * calls the "tamarind walk." This is a magnificent lot of tamarind trees, which are large and afford abundant shelter. Their foliage is very pretty to the eye, and the fruit hangs down first in green-colored pods and then in chocolate-colored suits. Their peculiar leaves and fruit attract all new-comers. Two sides of the square are

* "Panama in 1885;" New York.

closed in by native ranchos. Of the two others, one is the sea front, and the other that towards Toboga proper. The life of its inhabitants is simple, and is seemingly a very happy and contented one. Their wants are few and nature seems to supply them all. The island is famous for its magnificent pineapples; and it is well worth a trip to the Isthmus to enjoy that luscious fruit matured on its stalk. There are bananas and plantains, and other fruits whose names would not be familiar to my readers. The waters abound in fish and turtles and small oysters. Back of Restingue, in a gorge, there is an eternal spring of pure cold water, which furnishes both of these villages with water, and all the shipping making the harbor of Panama are supplied from it.* The natives have their canoes. They are large and small, and are used for fishing or visiting the adjoining islands and the mainland. In that part of South America are many huge trees and from them in the olden times the natives built their famous war canoes; canoes of ten and twelve tons, carrying crews of fifty, eighty, and at times one hundred men. Toboga is a charming place to visit, and it has much that was always interesting to me. The island is bathed in perpetual sunshine, clad in eternal green, and it certainly is one of nature's beautiful spots. The children of the inhabitants bask in the sunshine, play in the sands, feed upon the native fruits, and wear as little or as much clothing as pleases their parents. The great events in their lives are bull-teasings and cock fights and the religious festivals of the church. "A story is told of the land crabs of Toboga who about the latter part of Lent are observed descending the hills in great numbers. They even climb over the huts that may be in their way and join the religious procession on Good Friday."†

The quotation above reads very well, and is pat to my purpose, but the visits of the land crabs to the shore in countless numbers is not due to any religious instinct,

* "South Pacific Pilot," Imrie, London.

† "Antiquities and Ethnology of South America," London, 1860.

for they simply go down there once a year in armies to deposit their eggs by the seashore, after which they again retire to the hills. In a country like that, where superstition is the essential ingredient in the religion of the people, the little fiction of their going down to join the religious in their procession on Good Friday is pleasing to them, and certainly instructive to us, as showing the backward condition of that part of Colombia.

The favorite article of food down there is the iguana. The iguana is a species of land lizard, and varies in length from eighteen inches to three feet. Most uncanny looking objects they are. These animals are very fond of sleeping in the sunshine, and while in that condition are caught by the natives in great numbers and sold. The females are considered a delicacy, and there is a barbarous custom in connection with their treatment which I will mention here. The native women make a slit in their sides and drag from them long strings of eggs. The eggs when fresh are about the size of damson plums. They are said to be highly nutritious, and are hung up in the sun and dried. They are kept in that condition or sent to the market for sale. Strange as it may seem, these iguanas after this Colombian Cæsarian section do not die. They are kept in the ranchos one, two or three days, as the case may be, and finally are used as food. The flesh of this animal is pure white, and it is said to taste like chicken, but all my instincts forbade my introducing such an awful looking object to my Canadian stomach, and I was quite willing to take their word for it.

There, as elsewhere, the Indians and their descendants make a fermented drink. It is that already described. Sometimes a better quality is made from the fermented juice of the pineapple. The latter is somewhat of a luxury. Both are called chicha. The village of Toboga and that of Restingue are connected by a pathway. On the upper parts of the island of Toboga are many small clearings for bananas, plantains, pineapples, yams, and yuccas. The latter are used instead of potatoes. Directly back of Toboga on the opposite

side of the island there is a cave which can be visited at low water only. It is said that it extends well under the island but I never met anyone who had explored it. Of course, like all unknown things, a great deal of mystery surrounds it, and it is said that much treasure was hidden there by the priests after their flight from old Panama, and also by the buccaneers. I have strong doubts about this statement, because the fiery Welshman, Henry Morgan, took away all the treasure he could get; and, as far as the early clergy were concerned, they certainly were not noted for neglecting treasure on earth, whatever they thought about treasure in heaven. In the vicinity of this cavern is a cliff. The great earthquake of September 7, 1882, shook a part of it into the sea.

Facing the village of Restingue is a small island called El Moro. At low water it is connected with Toboga by a sand bar, for it is a Siamese twin of the insular variety. At high water both are islands. El Moro is a mound-like island, about a quarter of a mile long and broad, and some 300 feet high. On its face towards Restingue are the old workshops and dwellings put up by the Pacific Steam Navigation Company. In '49 and '50 Toboga was the port of Panama. At times, as many as 700 skilled workmen were employed on the island who were almost without exception Scotchmen. These men were recruited from time to time. Finally the company had to abandon El Moro and transfer their men and workshops to the port of Callao in Peru, as their workmen were swept away on El Moro by malaria, pernicious and yellow fevers. The transfer cost the company an enormous amount of money, but to save the men they had to make it. The climate to-day is the same as it was when Paterson, the founder of the Bank of England, planted his colony about two hundred years ago on the Isthmus of Darien. He called his city the new Edinburgh, and he considered the Isthmus the "Key to the Universe." Macaulay tells us how a band of some eighteen hundred sturdy Scotchmen, inside of fifteen months were reduced to three or

four hundred, and then the climate and their enemies forced them to leave; and it is related that when they embarked they were too weak to hoist the sails of their vessels and that the Spaniards, who were largely interested in their expulsion, assisted them.*

In proof of my assertion, that the climate is pernicious and death-dealing, I can refer the curious to the hospital on the crest of El Moro and the well filled cemetery just beyond it. On the southeast shore of the island are several old time cannon. It is said that they were abandoned by Morgan. I never could satisfy myself that there was any good ground for this statement.

Toboga and El Moro are famous for picnics. Small parties used to be made up in Panama to spend the day there, taking all their refreshments with them including an abundant supply of ice. If a dance was in order native musicians were secured on the island with violins and a guitar. The twanging of the latter is considered absolutely essential in giving the time. Pleasanter picnic grounds cannot be found. After a delightful day there the party would return to Panama in the evening. Many of my pleasantest reminiscences of Panama and of friends there are associated with these two islands. A picnic to be a success must be made up of the right people; there is as much a natural selection in these matters as in other things, and I may say that the picnics that I allude to were successes.

About forty miles down the gulf are the famous Pearl Islands, to which reference has already been made in connection with the churches of Panama. They were known to the early Spaniards as the Archipelago del Rey, or the King's Archipelago. Twice I have arranged to visit them and each time my plans were upset, so that it has never been my good fortune to put foot upon them. I have seen them in the distance. The main island is called San Miguel (St. Michael), its

* Macaulay's "History of England." See also "Encyclopædia Britannica," Ed. of 1885.

village bearing the same name. The latter was described to me by my friend Mr. Ospino, as consisting of ranchos, a few stone houses and a well built stone church, the towers of which are covered with pearl shells. Prior to the advent of the Spanish discoverers the Indians living on these islands had been pearl fishers. When Vasco Nufiez de Balboa visited the Pacific side of the Isthmus he went to the Pearl Island group, as he had heard of their wealth. While there he was presented with pearls whose blackened appearance astonished him. The simple savages instead of allowing the oyster to die a natural death, put them in the fire and then looked for the pearls.*

One of the islands of the group is Pedro Gonzalez. The Central South American Telegraph Company have a cable station on it. The island is noted for its pita grass, an exceedingly delicate and strong fibre that is used for making the finest Panama hats. It is so fine and so strong that it can be used for all the purposes of thread, and I have used it for surgical sutures. A great deal of this pita fibre is being exported, and it is used for adulterating silk. Speaking of Panama hats, the famous hats of this name that are worn all over the world are not made at Panama. They are made largely in Ecuador and Peru, but in some incomprehensible way they are known to the world as Panama hats. Some of the finest of them take an industrious native two to three months to make.

The pearl fisheries of the Gulf of Panama have been historic for centuries. Pearls have been found there as large as marbles, and one native dealer has been known to own as much as \$100,000 worth. The fisheries there, at one time of inestimable value, were destroyed by the reckless methods employed. Men in diving armor ruined them by taking up too many oysters, and for many years no fishing was allowed. The old native method of fishing was an exceedingly simple one. The

* "Voyages of Spanish Discovery," Washington Irving. "Panama in 1885."

fishers were all in the employ of natives residing on the island. These native merchants advanced them stores, got the men in their debt, and kept them there, when they were little better than slaves. This policy obtains to this very day in the Mexican pearl fisheries. The natives go off in their canoes, and the divers go down, taking with them a rough species of basket. They selected the large flat oysters that they deemed were best. It is said that some of them could remain below from a minute to two minutes. The stories that one hears of divers remaining below ten and fifteen minutes are absolutely without foundation. Their great enemies were the sharks, and many and terrific were the fights they had with these monsters. Generally the native was victorious, for, owing to his amphibious habits, he could swim under his enemy and rip open his belly. The divers returned to the surface, rested in their canoes for a time and then went to the bottom once more. The oysters were taken on shore, placed in piles and allowed to die. Just as soon as their shells opened they were searched for pearls. I have seen many and beautiful pearls from the island. One of the prettiest that I can recall was a perfect sphere, the size of a pea, with that delicate rose tint in certain lights that so enhances the value. I became the possessor of this pearl and sent it as a *requerdo* to a member of my family.

I do not think it is generally known that pearls really are the result of disease. The starting point of a pearl is generally a grain of sand that gets within the shell. The animal is unable to expel it, it becomes an irritant and sets up a species of inflammation, as the result of which it becomes covered, layer by layer with the lining or pearl of the shell. Some writers have compared pearls to tears. They are not natural products, but may be considered pathological. The life and history of these pearl oysters and their contents has been told in a delightful and instructive way in a leaflet issued by the Rev. Dr. Samuel Lockwood, of Freehold, New Jersey; and a most interesting leaflet it is.

While on the subject of pearl fishing I wish to recall

the fate of an expedition fitted out in this city (New York) to visit the same islands. The party went to the Isthmus, taking with them a small steamer in sections, which was put together on the Panama side of the Isthmus. It was in the year 1858, while there was an epidemic on the Isthmus. The sailors, engineers and officers contracted the disease. That expedition never left the shores of Panama, for all died except one, who returned to this city.

On those islands many archæological curios have been found. Personally I have never seen any of them, but Mr. J. A. McNeil, an American archæologist residing in David, Chiriqui, has seen and examined many curios from there, such as pottery, stone hatchets and gold ornaments. As all know who are familiar with the history of Mexico and Central America and that end of South America, the early Spanish discoverers found very ingenious Indians all through the country, and Columbus* in coasting along from Navy Bay to Porto Bello, thence to the coast of Mexico, found some of those old ruins that have been described at length by Stephens in his admirable work on Mexican Exploration. Squier† in his work throws a vast volume of light on the early history of the country and the remarkable idols on the island of Ometepe in Lake Nicaragua. At the southern end of the lake it is said that some of those prehistoric ruins still exist. Many suppose that these Indians were offshoots from their better educated brethren of Mexico and Central America. I say "better educated." The early Spaniards who invaded what to-day is Guatemala, from Mexico, found a species of civilization among the native tribes that was astonishing. In the highlands, back of Retalhelen there was a fortified camp well constructed of stone in which there were upwards of two thousand military students, or students who were studying tactics of those days.‡

* "Life and Voyages of Columbus."

† "Squier's Nicaragua." New York.

‡ "Historia de Centro America." Guatemala.



FLAG-STAFF, CONSULATE GENERAL, U. S. A., PANAMA.

CHAPTER X.

PANAMA, VIEJO OR OLD PANAMA—SITE—GLIMPSE OF PAST HISTORY—DESTRUCTION BY MORGAN—RUINS—CATHEDRAL OF ST. ANASTASIUS—PRESENT CONDITION.

OLD PANAMA, or *Panama Viejo*, is a most interesting spot to any one who has unearthed some of the early history of the Spanish discoverers. The ruins of the old city lie some four and a half miles southeast of modern Panama. The only landmark seen by shipmasters making the harbor is the old tower of the Cathedral of St. Anastasius.

The old city is difficult to reach. To go there on horseback during the dry season, means a long ride from Panama by way of the savanna, thence through a very dense forest, amid tropical jungle. During a ride of that kind, in the dry season, one will probably be cover by garrapatas, or wood-ticks, and they are not pleasant. The best way of getting there is by water. Such trips have to be nicely timed, owing to the great rise and fall of the tides, and no one should attempt it unless he has skilled boatmen. Huge rollers form all along the upper horn of the gulf and are very dangerous. My first visit with my family nearly resulted in our being drowned. The boatman who undertook to take us there, claimed that he had a perfect knowledge of the locality and of a safe way of approaching it. As we were reaching the shores the crest of a huge roller partially filled our boat. Had we been swamped, the undertow, which at that point is very strong, would have carried us out to sea. Since then I have visited the spot, and the only boatman that I know of, that I would trust myself with is Marel, who lives at the Taller. He is a waterman of the first order, and with

him I never felt any anxiety, nor have I suffered the slightest mishap. Landing opposite the ruins is out of the question, owing to the sand and a very deep deposit of soft clay. Generally Marel entered one of the minor bays at some point between Puerta Paitillia and old Panama. He so arranged matters that we arrived there almost at high water, and we went out on the next tide. Between tides our boat was high and dry, and fully half a mile from the sea. After landing one wanders along a stretch of beach backed by dense tropical jungle, volcanic cliffs, and much that interests one who cares for things of that sort. An arm of the sea crosses the sands and passes under an old bridge into an interior lagoon. That old stone bridge possessed a wonderful interest for me. It was built some three hundred and fifty years ago, and to this very day, despite climate and earthquakes, it is in excellent order. At water level, where the faces of the stone are alternately wetted and sunned between tides, they have been worn away some three or four inches. Despite the latter, the bridge is strong and perfect; its arch is an exceedingly pretty one, and looking at it from the sands, it makes a beautiful picture, with the dense virgin forest and the water that one sees under and beyond it.

On one occasion while on a small picnic party, we had our early coffee on that bridge, under a huge tree that had grown on the arch. During my last visit to old Panama, I found that that stalwart guardian had been uprooted and blown into the lagoon.

The bridge and the remains of the porter's residence beyond it were wonderfully suggestive to me. It connected old Panama on the Pacific with Porto Bello, or Beautiful Harbor on the Atlantic. The latter was so named by Columbus in person.* The early Spaniards built a paved way from Porto Bello across the mountains to the Panama side. There it connected with the main road, crossing a part of the savanna, and by way of the bridge, with Panama Viejo. Then Spain was at the

* "Life and Voyages of Columbus."

very zenith of her fame and wealth, and in Old Panama the splendor of the mother country was reproduced. With the pearls of the islands, the gold from Darien and the coast of Central America, and the silver of Mexico and Peru it was rich to a degree. It was a life of luxury, of Spanish pleasure and dash, almost Asiatic in character. The Vice-Regal Court was grand and imposing; proud and brave noblemen surrounded the Viceroy, who was kingly, both in power and surroundings. People those highways with richly dressed noblemen attending Spanish women, whose beauty is historic, mounted on their Andalusian chargers, and attended by a suite of followers. The very atmosphere down there seemed to teem with the music of old time bells. Remember Spain and the church went hand in hand,—to be strictly accurate, the Church led and Spain followed. To-day not a house remains intact. That city, then considered the Key to the Pacific and the Gate to the Universe, is silent and overgrown by a dense tropical forest, over two hundred years old.

I have used the term "*Asiatic luxury*," translating literally from the Spanish—*lujo Asiatico*. As some of my readers may not be thoroughly versed in that most romantic and daring age, it may be well to recall the fact that the brilliant discoveries of Columbus and his daring followers came close on the expulsion of the Moors from Spain. The latter had overrun that country for nearly eight hundred years, and they have left some of the grandest of architectural monuments: not only in Spain, but in Portugal as well. The true Asiatic luxury was that introduced by the Moors. Anyone who has had the privilege of visiting Spain and seeing some of those wonderful creations of the Moors, such as the Alcazar of Seville, will not question my statement as to Asiatic luxury. The Moors were a people who grafted on Spain luxurious habits and their own pomp. Following their expulsion, hundreds and thousands of warriors who had been trained to arms were idle, and they gladly embarked in the vessels of the discoverer to seek fame and wealth beyond the "dark sea," as the early histo-

rians termed the Atlantic. I have referred to the discovery of the Pacific on the morning of the 26th of September, 1513, by Vasco Nufiez de Balboa, who saw it from the top of El Cerro Gigante, midway between Panama and Colon. Following this discovery, new and vast fields were opened to these ambitious, daring adventurers. In time Old Panama was built and there was a luxuriance and an ostentation about it that to-day I presume is unknown,—certainly within the domain of civilization. So much by way of explanation. The history of that wonderful old city reads to me like one of Jules Verne's stories, save that the ruins are there, and we have history for it instead of fiction. Many of the houses were of stone, and some of their foundations can be traced to this day, and in some places their side walls; but the majority were of native cedar, a densely hard, aromatic wood. Among thousands of other buildings there were churches, and no less than eight monasteries and a magnificent hospital. The churches and monasteries were wealthy to a degree; it was always the church first and Spain afterwards. Their fittings, altar cloths, jewel services, and altar paraphernalia were mines of wealth; so much so that the fame thereof spread over the world. In time this very luxury led to the destruction of the city by the buccaneers. In the city there were over two thousand houses of stately appearance inhabited by the king's officers and the wealthy class. It is said that there were five thousand of more modest pretention, occupied by small tradesmen and the lower classes. There were buildings allotted to the keeping of the king's horses,—horses that were kept purposely to convey the king's treasure over the paved way to Porto Bello on the Atlantic, or the North Sea, as they then termed it, there to deposit it ere it was conveyed to the mother country in the king's vessels. The houses of the better class were filled with silken hangings, paintings and all that luxury and a fastidious taste could desire.

The beautiful savanna, that I have briefly alluded to in the past, then consisted of fertile fields and magnifi-

cent drives. The life was a dreamy one of sensuous luxury for the upper class. Everything they touched seemed to turn into gold. The unfortunate natives of the country were their slaves. The islands in the gulf yielded magnificent pearls, the mines of Darien gave untold wealth. While sitting there amid the old ruins in the heart of a dense forest, it almost seemed unreal that the place was the site of so much past grandeur and past luxury. Nature with her own lavish hand has done her best to bury the ruins in a luxurious growth; even the very walls of the few remaining buildings are clad with tropical creepers, and from their upper portion there is a dense growth of small trees. These lines of pure green, in what seems nothing but a mass of forest, produce a very strange effect. I have wandered about on the site of that old city, following a machetero or a native with a machete. He preceded me to cut a trail. In the forest there is a wealth of tropical vegetation and flowers, with but an occasional glimpse of sunlight, so dense is the foliage. All is quiet save when broken by the blows of the machetero or the singing of innumerable tropical birds. In wandering about through the forest, one has to be exceedingly careful, owing to the number of old wells which supplied the inhabitants with their water. Many of these are in excellent order. They are just on a level with the surrounding ground, are of great depth, and contain an abundance of water. It was customary to sink a well between walls, enabling people in two houses to supply themselves from the same source. The ruins of the old Cathedral of St. Anastasius are those that afford one the most satisfaction, as they are still in good condition. There it was on the altar of the Virgin, that bold and indefatigable discoverer, Pizarro, deposited his votive offering before sailing to the south, where he discovered Peru. He found a people whose history was classic. The Peruvians, whose monuments are familiar to all readers of history, were a people who upwards of one thousand years ago constructed a road from what is to-day Santa Fé de Bogota, to the country of the first Incas. This road was a marvel

of engineering. For hundreds and hundreds of miles it was constructed through ravines, across mountain gorges, and even around the faces of cliffs. Within the walls of the old cathedral there is a growth of timber, for it is over two centuries since Old Panama was laid waste.

Once while making a diligent search in the forests, I found the walls of an old ecclesiastical building, and, over an archway, a huge coat-of-arms. It had been almost obliterated by time. The difficulty of getting about there is great, and the danger from poisonous snakes is serious. There is no spot that has furnished me with so much agreeable food for thought and speculation as Old Panama. It is impossible to read the early history of the Spaniards without feeling a warm glow creeping over one—an intense admiration for the men who fought against climate, savages, and disease.

It has been my good fortune to pay four visits to Old Panama. Its sole sentinel is the tower of St. Anastasius. There is much of the history of that time that seems to be comparatively unknown, even to well informed people, and yet reading it gives one profound pleasure.

Henry Morgan's history reads like a novel. "Brave and daring * * * of a sordid and brutal character, selfish and cunning, and without any spark of the reckless generosity which sometimes graced the freebooter and contrasted with his crimes. He was a native of Wales, and the son of a respectable yeoman. Early inclination led him to the sea; and embarking for Barbadoes, by a fate common to all unprotected adventurers, he was sold for a term of years. After effecting his escape, or emancipation, Morgan joined the buccaneers, and in a short time saved a little money, with which, in concert with a few comrades, he equipped a bark, of which he was chosen commander." * * *

Such was the start made by the new leader of the buccaneers. After endless adventures he organized an expedition for an attack on Porto Bello, or the Atlantic

* *Lives and Voyages of Drake, Cavendish et al.*, New York.

port of Panama. "With nine ships and boats, and 460 of his countrymen, he resolved to assault Porto Bello."* This expedition exhibits the hardy daring of this man, for Porto Bello was a stronghold of the first order. "To those who then objected that their force was inadequate to the attack, Morgan boldly replied that though their numbers were small, their hearts were good; and the fewer the warriors the larger the shares of plunder. This was an irresistible argument; and this strongly fortified city was carried by a handful of resolute men, who never scrupled at cruelty needful to the accomplishment of their object, and often revelled in the wantonness of unnecessary crime."*

The Spaniards fought bravely against the English pirates. The wealthy inhabitants sought safety with their valuables and treasure within the forts. One strong fort had been reduced, for Morgan had compelled his prisoners to place scaling ladders on the walls. Priests and nuns were forced to do the work, Morgan believing that the Spaniards would spare them and that under such cover his men could advance. "In these trying circumstances, forgetting the claims of country, and the sacred character of the innocent persons exposed to suffering so unmerited, the Spanish Governor consulted only his official duty; and while the unhappy prisoners of the buccaneers implored his mercy, continued to pour shot upon all who approached the walls, whether pirates or the late peaceful inhabitants of the cloisters, his stern answer being that he would never surrender alive. Many of the friars and nuns were killed before the scaling ladders could be fixed; but that done, the buccaneers, carrying with them fireballs and pots full of gunpowder, boldly mounted the walls, poured in their combustibles, and speedily effected an entrance. All the Spaniards demanded quarter except the Governor, who died fighting, in the presence of his wife and daughter, declaring that he chose rather to die as a

* *Ibidem.*

brave soldier than be hanged like a coward. The next act in the horrid drama of buccaneering conquest followed rapidly,—pillage, cruelty, brutal license,—the freebooters giving themselves up to so mad a course of riot and debauchery that fifty resolute men might have cut them off and regained the town, had the panic-struck Spaniards been able to form any rational plan of action or to muster a force. During these fifteen days of demoniac revel, interrupted only by torturing the prisoners to make them give up treasures which they did not possess, many of the buccaneers died from the consequences of their own brutal excesses, and Morgan deemed it expedient to draw off his force. Information had by this time reached the Governor of Panama and though aid was distant from the miserable inhabitants of Porto Bello, it might still come. Morgan, therefore, carried off a good many of the guns, spiked the rest, fully supplied his ships with every necessary store, and having already plundered all that was possible, insolently demanded an exorbitant ransom for the preservation of the city and for his prisoners, and prepared to depart from the coast. These terms he even sent to the Governor of Panama, who was approaching the place, and whose force the buccaneers intercepted in a narrow pass, and compelled to retreat. The inhabitants collected among themselves a hundred thousand pieces of eight, which Morgan graciously accepted, and retired to his ships.

“The astonishment of the Governor of Panama at so small a force carrying the town and the forts, and holding them so long, induced him, it is said, to send a message to the buccaneer leader, requesting a specimen of the arms which he used. Morgan received the messenger with civility, gave him a pistol and a few bullets, and ordered him to bid the governor to accept of so slender a pattern of the weapons with which he had taken Porto Bello, and to keep it for a twelvemonth, at the end of which time he (Morgan) proposed to come to Panama to fetch it away. The Governor returned the loan with a gold ring, and requesting Morgan not to

give himself the trouble of travelling so far, certifying to him that he would not fare so well as he had done at Porto Bello."

Following this exploit Morgan led many successful expeditions, and "early in October, 1670, found himself surrounded by pirates, hunters, cultivators, English, French and Dutch, who, from land and sea, the plantation and the wilderness, had flocked to the standard of him who was to lead them to fortune and victory. The first duty was to victual the fleet, and this was done by pillaging the hog-yards, and with the *boucan* sent in by hunters who either joined in the expedition or traded with the pirates."

The word buccaneer is derived from *boucan*, the French for smoke. The men who cured the bacon for the pirates, and who really were their allies, were called "boucaniers." In time this word became converted into our English word "buccaneer," and later it gave the name to the whole bloodthirsty piratical crew. Morgan's success in organization may be gathered from the fact, that at that time he had thirty-seven vessels, fully provisioned, under his command, and 2,000 fighting men, flushed with victory, eager for plunder and the grossest license. Then it was that a new attack on Porto Bello was in order, and, following its capitulation, it was to be, "On to Panama," to redeem his promise and recover his pistol. The remainder is best told in the admirable words of the old time chronicler:

"From this point Morgan detached a force of 400 men, to attack the castle of Chagre, the possession of which he judged necessary to the success of his future operations against Panama. It was eventually carried by the accident of fire communicating with the powder magazine, which blew up part of the defences.*

* The manner in which the fire was said to be communicated is not a little singular. A buccaneer was pierced through by an arrow from the fort. He drew it forth from his body, wound a little cotton round it, and shot it from his musket against the castle. The cotton kindled by the powder, set fire to the palm-leaf roofs of some sheds within the

"While the Spaniards were occupied in suppressing the conflagration, the buccaneers labored hard to increase the confusion, by setting fire to the palisadoes in several places. At last they effected a breach, in defiance of the liquid combustibles which the Spaniards poured down among them, and which occasioned considerable loss of their numbers. But the attack and resistance were still continued throughout the whole night, the buccaneers directing an incessant fire towards the breaches, which the Spanish Governor pertinaciously defended.

"By noon the next day, the buccaneers had gained a breach, which was defended by the Governor himself and twenty-five soldiers. The Spanish soldiers fought with desperate valor, despair lending them supernatural courage; but nothing could resist the impetuosity of the pirates; they burst their way through every obstacle, and the unfortunate Spaniards who survived, preferring death to the dishonor of either falling into the hands of these infuriated ruffians or of begging quarter, precipitated themselves into the sea. The Governor had retired into the *corps du garde*, before which he planted two pieces of cannon, and bravely maintained the hopeless and unequal conflict till he fell by a musket shot, which entered the brain. Of the garrison of 314 men, only thirty remained alive, and of these few twenty were wounded. Not a single officer escaped.

"From the survivors of the siege, the buccaneer party learned that the Governor of Panama was already apprised of their design against that place, that all along the course of the Chagre, ambuscades were laid, and that a force of 3,600 men awaited their arrival. But this did not deter Morgan, who pressed forward for Chagre the instant that he received intelligence of the capture of

castle, and the flame caught at the gunpowder, which produced the breach in the walls. At the same instant, the buccaneers set fire to the palisadoes; the Spaniards, though unwavering in courage, and undaunted in resolution, became distracted in the midst of so many dangers.

the castle, carrying with him all the provisions that could be obtained in Santa Catalina, to which island he intended to return after the capture of Panama.

"The English colors flying upon the castle of Chagre, was a sight of joy to the main body of the buccaneers upon their arrival. Morgan was admitted within the fort by the triumphant advance troop with all the honors of conquest. Before his arrival, the wounded, the widows of the soldiers killed in the siege, and the other women of the place, had been shut up in the church, and subjected to the most brutal treatment. To their fate Morgan was entirely callous; but he lost no time in setting the prisoners to work in repairing the defences and forming new palisadoes; he also seized all the craft in the river, many of which carried from two to four small pieces.

"These arrangements concluded, Morgan left a garrison of 500 men in his castle at Chagre, and in the ships 150; while at the head of 1,200 buccaneers, he, on the 18th of January, 1671, commenced his inland journey to Panama, indifferent about or determined to brave the Spanish ambuscades. His artillery was carried by five large boats, and thirty-two canoes were filled with part of the men. Anxious to push forward, Morgan committed one capital blunder in carrying almost no provisions, calculating upon a shorter period being consumed on the march than it actually required, and on foraging upon the Spaniards. Even on the first day their provisions failed, and on the second they were compelled to leave the canoes, the lowness of the river and the fallen trees lying across it making this mode of travelling tedious and nearly impractical. Their progress was now continued by land and water alternately, and was attended with great inconvenience, the extremity of famine being of the number of their hardships. Their best hopes were now placed in falling in with the threatened ambuscades, as there they might find a store of provisions. So extremely were they pinched with hunger that the leathern bags found at a deserted Spanish station formed a delicious meal. About this delicacy they

even quarrelled, and, it is said, openly regretted that no Spaniards were found, as failing provisions, they had resolved to have roasted or boiled a few of the enemy to satisfy their ravening appetites.

"Throughout the whole track to Panama the Spaniards had taken care not to leave the smallest quantity of provisions, and any other soldiers than the buccaneers must have perished long before even the distant view was obtained of the city, but their powers of endurance, from their hardy modes of life, were become almost superhuman. At nightfall, when they reached their halting-place, 'happy was he who had reserved since morn any small piece of leather whereof to make his supper, drinking after it a good draught of water for his greatest comfort.' Their mode of preparing this tough meal deserves to be noticed. The skins were first sliced, then alternately dipped in water and beat between two stones to render them tender; lastly, the remaining hair was scraped off, and the morsel broiled, cut into small bits, and deliberately chewed, with frequent mouthfuls of water to eke out and lengthen the repast.

"On the fifth day at another deserted ambushade a little maize was found, and also some wheat, wine, and plantains. This, scanty as it was, proved a seasonable supply to those who drooped, and it was thriftily dealt out among them. Next day a barnful of maize was discovered, which, beating down the door, the famished buccaneers rushed upon and devoured without any preparation. Yet all this hardship could not turn them aside from the scent of prey, though symptoms of discontent became visible in their ranks. At a village called Cruz, perceiving from a distance a great smoke, they joyfully promised themselves rest and refreshment, but on reaching it found no inhabitant, and every house either burnt down or in flames, so determined were the Spaniards to oppose the onward march of the terrible beings, presented to their imaginations under every shape of horror. The only animals remaining, the dogs and cats of the village, fell an immediate sacrifice to the wolfish hunger of the buccaneers.

"Morgan had now some difficulty in preserving discipline, and in keeping his companions or followers from falling into the hands of the Spaniards or Indians, when straggling about in search of anything they could devour. In this way one man was lost.

"They were now within eight leagues of Panama, and the nearer they approached the more anxious and vigilant was Morgan in looking out for the threatened ambuscades of the enemy, who, he naturally conjectured, might have retired to consolidate his forces. On the eighth day they were surprised by a shower of Indian arrows poured upon them from some unseen quarter, and, advancing into the woods, maintained a sharp, short contest with a party of Indians, many of whom fell offering a brave though vain resistance. Ten of the freebooters were killed in this skirmish. The buccaneers, who had already three Indian guides, runaways, found in Santa Catalina, endeavored at this place to make some prisoners for the purpose of procuring intelligence, but the Indians were too swift of foot.

"After another twenty-four hours of suffering, under which only freebooters or Indians could have borne up, on the morning of the ninth day of the march, from a high mountain the majestic South Sea was joyfully descried, with ships and boats sailing upon its bosom, and peacefully setting out from the concealed port of Panama. Herds of cattle, horses and asses, feeding in the valley below the eminence on which they stood, formed a sight not less welcome. They rushed to the feast, and, cutting up the animals, devoured their flesh half-raw, more resembling cannibals than Europeans at this banquet, the blood many times running down from their beards unto the middle of their bodies.

"This savage meal being ended, the journey was resumed, Morgan still endeavoring to gain information by taking prisoners, as on his whole line of march he had obtained speech of neither Spaniard or Indian.

"In the same evening the steeple of Panama was beheld at a distance, and, forgetting all their sufferings, the buccaneers gave way to the most rapturous exultation,

tossing their caps into the air, leaping, shouting, beating their drums, and sounding their trumpets at the sight of so glorious a plunder, and as if victory were already consummated. They encamped for the night near the city, intending to make the assault early in the morning. The same night a party of fifty Spanish horsemen came out as if to reconnoitre, advanced within musket shot of the pirates, scornfully challenged 'the dogs' to come on, and then retired, leaving six or eight of their number to watch the enemy's motions. Upon this the great guns of the town began to play on the camp, but were too distant or ill-directed to do any execution, and instead of betraying alarm, the buccaneers, having placed sentinels around their camps, made another voracious meal preparatory to the next day's business, threw themselves upon the grass, and, lulled by the Spanish artillery, slept soundly till the dawn.

"The camp was astir betimes, and the men being mustered and arrayed, with drums and trumpets sounding, they advanced towards the city; but instead of taking the ordinary route which the Spaniards were prepared to defend, by the advice of one of the Indian guides, they struck through a wood by a tangled and difficult path, in which, however, immediate obstruction could not be apprehended. Before the Spaniards could counteract this unexpected movement, the buccaneers had advanced some way. The Governor of Panama, who led the forces, commanded 200 cavalry and four regiments of infantry; and a number of Indian auxiliaries conducted an immense herd of wild bulls to be driven among the ranks of the buccaneers, and which were expected to throw them into disorder. This extraordinary arm of war was viewed by the hunters of Hispaniola and Campeachy with indifference, but they were somewhat alarmed at the regular and imposing array of the troops drawn up to receive them. It was, however, too late to retreat. They divided into three detachments, 200 dextrous marksmen leading the advance. They now stood on the top of a little eminence, whence the whole Spanish force, the city, and the campaign-

country around were distinctly seen. As they moved downward the Spanish Cavalry, shouting *Viva el Rey*, immediately advanced to meet them, but the ground happened to be soft and marshy, which greatly obstructed the manœuvres of the horsemen. The advance of the buccaneers, all picked marksmen, knelt and received them with a volley, and the conflict instantly became close and hot. The buccaneers, throwing themselves between the Spanish horse and foot, succeeded in separating them, and the wild bulls, taking fright from the tumult and the noise of the guns, ran away, or were shot by the buccaneers before they could effect any mischief.

"After a contest of two hours the Spanish cavalry gave way. Many were killed, and the rest fled; which the foot-soldiers perceiving, fired their last charge, threw down their muskets, and followed the example of the cavaliers. Some of them took refuge in the adjoining thickets; and though the buccaneers did not continue the pursuit, they took a savage pleasure in shooting without mercy all who accidentally fell into their hands. In this way several priests and friars who were made prisoners were pistolled by the orders of Morgan. A Spanish officer who was made prisoner gave the buccaneers minute intelligence of the force of the enemy and the plan of defence, which enabled them to approach the town from the safest point; but the advance was still attended with difficulty.

"After the rout which had taken place in the open field, and the slaughter which followed, the buccaneers rested for a little space, and during this pause, solemnly plighted their honor by oaths to each other, never to yield while a single man remained alive. This done, carrying their prisoners with them, they advanced upon the great guns planted in the streets and the hasty defences thrown up to repel them. In this renewed assault, the buccaneers suffered severely before they could make good those close quarters in which they ever maintained a decided superiority in fighting. Still, they resolutely advanced to the final grapple, the Spaniards

keeping up an incessant fire. The town was gained after a desperate conflict of three hours maintained in its open streets.

"In this assault the buccaneers neither gave nor accepted quarter, and the carnage on both sides was great. Six hundred Spaniards fell on that day, nor was the number of the buccaneers who perished much less; but to those who survived a double share of plunder was at all times ample consolation for the loss of companions whose services were no longer required in its acquisition. The city was no sooner gained than Morgan, who saw the temper of the inhabitants in the obstinate nature of the resistance they had offered, and who well knew the besetting sins of his followers, prudently prohibited them from tasting wine, and aware that such an order would be very little regarded, were it enforced by nothing save a simple command, he affirmed that he had received private intelligence that all the wine had been poisoned. They were therefore enjoined not to touch it, under the dread of poisoning and the penalties of discipline. Neither of these motives were sufficient to enforce rigid abstinence among the buccaneers, though they operated till indulgence became more safe.

"As soon as possession of the city was gained, guards were placed, and at the same time fires broke out simultaneously in different quarters, which were attributed by the Spaniards to the pirates, and by them to the inhabitants. Both assisted in endeavoring to extinguish the dreadful conflagration, which raged with fury; but the houses, being built of cedar, caught the flames like tinder, and were consumed in a very short time. The inhabitants had previously removed or concealed the most valuable part of their goods and furniture.

"The city of Panama consisted of about twelve thousand houses, many of them large and magnificent. It contained also eight monasteries and two churches, all richly furnished. The concealment of the church plate drew upon the ecclesiastics the peculiar vengeance of the heretical buccaneers, who, however, spared no one. The conflagration which they could not arrest, they seemed

at last to take a savage delight in spreading. A slave factory belonging to the Genoese, was burnt to the ground, together with many warehouses stored with meal. Many of the miserable Africans whom the Genoese brought for sale to Peru, perished in the flames which raged or smouldered for nearly four weeks.

"For some time the buccaneers, afraid of being surprised and overpowered by the Spaniards, who still reckoned ten for one of their numbers, encamped without the town. Morgan had also weakened his force by sending a hundred and fifty men back to Chagre, with news of his victory. Yet by this handful of men, the panic-struck Spaniards were held in check and subjection while the buccaneers either raged like demons through the burning town, or prowled among the ruins and ashes in search of plate and other valuable articles.

"The property which the Spaniards had concealed in deep wells and cisterns, was nearly all discovered, and the most active of the buccaneers were sent out to the woods and heights to search for and drive back the miserable inhabitants who had fled from the city with their effects. In two days they brought in about two hundred of the fugitives as prisoners. Of those unhappy persons many were females who found the merciless buccaneers no better than their fears had painted them.*

"In plundering the land Morgan had not neglected the sea. By sea, many of the principal inhabitants had

* "The Spanish colonists of South America had a twofold reason for detesting the buccaneers. They were English heretics as well as lawless miscreants, capable of the foulest crimes; and it is not easy to say whether in the idea of the indolent, uninstructed, priest-ridden inhabitants of Panama, Porto Bello, and Carthagena, they were not as hateful and alarming in the first character as in the last. A Spanish lady, one of his prisoners, with whom Morgan, the buccaneer commander, fell in love, is described as believing, till she saw them, that the freebooters were not men, but some sort of monsters named heretics, 'who did neither invoke the Blessed Trinity, nor believe in Jesus Christ.' The civilities of Captain Morgan inclined her to better thoughts of his faith and Christianity, especially as she heard him frequently swear by the sacred names. 'Neither did she now think them to be so bad, or to have the shapes of beasts, as from the relations

escaped, and the boat was immediately sent in pursuit, which brought in three prizes; though a galleon, in which was embarked all the plate and jewels belonging to the king of Spain, and the wealth of the principal nunnery of the town, escaped, from the buccaneers indulging in a brutal revel in their own bark till it was too late to follow and capture the ship. The pursuit was afterwards continued for four days, at the end of which the buccaneers returned to Panama with another prize, worth 20,000 pieces of eight in goods from Paita.

"Meanwhile, on the opposite coast, the ships' companies left at Chagre, were exercising their vocation, and had captured one large Spanish vessel, which, unaware of the hands into which the castle had fallen, ran in under it for protection. While the buccaneers were thus employed at sea, and at Panama and Chagre, parties continued to scour the surrounding country, taking in turn the congenial duty of foraging and bringing in booty and prisoners, on whom they exercised the most atrocious cruelties, unscrupulously employing the rack, and sparing neither age, sex, nor condition. Religious persons were the subjects of the most refined barbarity, as they were believed to direct and influence the rest of the inhabitants, both in their first resistance and in the subsequent concealment of property. During the perpetration of these outrages, Morgan, as has been noticed, fell in love with a beautiful Spanish woman, his

of several people, she had heard oftentimes. For as to the name of robbers or thieves which was commonly given them by others, she wondered not much at it, seeing, as she said, that among all nations of the universe there be found wicked men who covet the goods of others." It is clear that the heretic was as great a curiosity, if not a more truculent monster, than the buccaneer. Another lady of Panama was very curious to see the extraordinary animals called buccaneers, and the first time she had that happiness exclaimed aloud, "Jesu, bless me! These thieves are like unto us Spaniards." About a century before the storming of Panama, one powerful reason with the Spaniards for preventing the English from passing the Straits of Magellan was, to preserve the natives of the newly discovered Islands of the Pacific 'from the venom of their heresy.' The above quotation is from the "*History of the Buccaneers*," London, 1741.—W. N.

prisoner, and the wife of one of the principal merchants. She rejected his infamous addresses with firmness and spirit; and the buccaneer commander, alike a ruffian in his love and hate, used her with a severity that disgusted even those of his own gang, who had not thrown aside every feeling of manhood; and he was fain to charge his fair prisoner with treachery to excuse the baseness of the treatment she received by his orders. This alleged treachery consisted in corresponding with her countrymen, and endeavoring to effect her escape.

"In the meanwhile, a plan had entered the minds of a party of the buccaneers which did not suit the views nor meet the approbation of their leader. They had resolved to seize a ship in the port, cruise upon the South Sea on their own account, till satiated with booty, and then either establish themselves on some island, or return to Europe by the East Indies. Captain Morgan could neither spare equipments nor men for this project, of which he received private information. He immediately ordered the mainmast of the ship to be cut down and burnt, together with every other vessel in the port, thus effectually preventing desertion on this side of America. The arms, ammunition and stores secretly collected for this bold cruise on the South Sea were applied to other purposes.

"Nothing more was to be wrung forth from Panama, which, after a destructive sojourn of four weeks, Morgan resolved to leave. Beasts of burden were therefore collected from all quarters to convey the spoils to the opposite coast. The cannon were spiked, and scouts sent out to learn what measures had been taken by the governor of Panama to intercept the return to Chagre. The Spaniards were too much depressed to have made any preparation either to annoy or cut off the retreat of their inveterate enemies; and on the 24th of February, the buccaneers, apprehensive of no opposition, left the ruins of Panama with a hundred and seventy-five mules laden with their spoils and above six hundred prisoners, including women, children and slaves. The misery of these wretched captives, driven on in the midst of the

armed buccaneers, exceeds description. They believed that they were all to be carried to Jamaica, England, or some equally wild, distant, and savage country, to be sold for slaves; and the cruel craft of Morgan heightened these fears, the more readily to extort the ransom he demanded for the freedom of his unhappy prisoners. In vain the women threw themselves at his feet, supplicating for the mercy of being allowed to remain amid the ruins of their former homes, or in the woods and huts with their husbands and children. His answer was, that he came not here to listen to cries and lamentations, but to get money, which, unless he obtained, he would assuredly carry them all where they would little like to go. Three days were granted in which they might avail themselves of the conditions of ransom. Several were happy enough to be able to redeem themselves, or were rescued by the contributions sent in; and with the remaining captives, the pirates pushed onward, making new prisoners and gathering fresh spoils on their way.

“The conduct of Morgan at this time disproves many of the extravagant notions propagated about the high honor of the buccaneers in their dealings with each other. Halting at a convenient place for his purpose, in the midst of the wilderness, and about half way to Chagre, he drew up his comrades, and insisted that, besides taking an oath, declaring that all plunder had been surrendered to the common stock, each man should be searched, he himself submitting in the first place to the degrading scrutiny, though it was suspected that the leading motive of the whole manœuvre was the desire of concealing his own peculation and fraudulent dealing with his associates. The French buccaneers who accompanied the expedition, were indignant at treatment so much at variance with the maxims and usages of the gentlemen rovers; but being the weaker party, they were compelled to submit.

“The buccaneers and their prisoners performed the remainder of the journey by water, and when arrived at Chagre, Morgan, who knew not how to dispose of his un-

redeemed prisoners, shipped them all off for Porto Bello, making them the bearers of his demand of ransom from the governor of that city for the castle of Chagre. To this insolent message the governor of Porto Bello replied, that Morgan might make of the castle what he pleased; not a ducat should be given for its ransom.

"There was thus no immediate prospect of any more plunder in this quarter, and nothing remained to be done but to divide the spoils already acquired. The individual shares fell so far short of the expectations of the buccaneers, that they openly grumbled and accused their chief of the worst crime of which, in their eyes, he could be guilty,—secreting the richest of the jewels for himself. Two hundred pieces of eight to each man was thought a very small return for the plunder of so wealthy a city, and a very trifling reward for the toil and danger that had been undergone in assaulting it. Matters were assuming so serious an aspect among the fraternity that Morgan, who knew the temper of his friends, deemed it advisable to steal away with what he had obtained. He immediately ordered the walls of Chagre to be destroyed, carried the guns on board his own ship, and, followed by one or two vessels, commanded by persons in his confidence, sailed for Jamaica, leaving his enraged associates in want of every necessary. Those who followed him were all Englishmen, who, as the French buccaneers fully believed, connived at the frauds and shared in the gains of Morgan. They would instantly have pursued him to sea, and the Spaniards might have enjoyed the satisfaction of seeing the buccaneer fleet divided and fighting against itself, had they with a force so much weaker, dared to venture so unequal an encounter. The vessels deserted by Morgan separated here and the companies sought their fortunes in different quarters, none of them much the richer for the misery and devastation they had carried to Panama."

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"Before quitting this part of the subject, it may be proper to notice the conclusion of the adventures of the

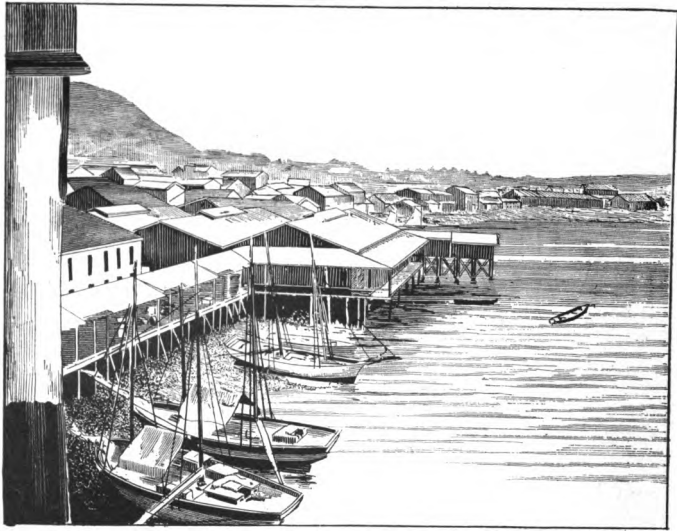
notorious Morgan. In the year which elapsed between the plunder of Panama and 1680, he had sufficient address and interest, or, more probably, skill in the appliance of his ill-gotten wealth, to obtain from Charles II. the honor of knighthood, and afterward to be appointed deputy-governor of Jamaica."

It is eminently satisfactory to know, that Morgan was pursued by fate, and to read that some of his old companions denounced him, and that "after the accession of James II. got him removed from his office, (deputy-governor of Jamaica, Capt. Sir Henry Morgan), and committed for a time to a prison in England."

The maxim of the buccaneers was, "No place beyond the line," and they were

"Linked to one virtue, and a thousand crimes." *

* Lives of Drake, Cavendish, *et al.*, New York.



THE MARKET, PANAMA. TIDE OUT.

CHAPTER XI.

EARLY HISTORY OF THE ISTHMUS, OR SANTA MARIA DE LA
ANTIGUA DEL DARIEN—THE FIRST SEE IN AMERICA—
MINAS DEL REY—OLD CANNON.

UNTIL recent times the Isthmus of Darien comprised that huge neck of land uniting South and Central America. It forms the southern part of the State of Panama, the State being the extreme northern end of South America. To-day what is considered Darien is some distance from Panama, and the narrowest part of the Isthmus extends from Colon to Panama. The early writers gave its breadth as eighteen Spanish leagues, and this is confirmed by modern surveys, which place it at some forty-seven miles.

I have already stated that Vasco Nufiez de Balboa discovered the Pacific Ocean on the morning of September 26, 1513.* Balboa was born in 1475 in the city of Xeres de los Caballeros, in the Province of Estremadura, in Spain. He was of noble descent, intensely respectable, and correspondingly poor. The same conditions seem to obtain to-day outside of Spain. His first voyage was made in October, 1500, under Rodrigo de Bastides. With Bastides he coasted the Terra Firma, or Spanish Main, from Venezuela of to-day to the Isthmus of Darien, or nearly to Porto Bello. Balboa was a clear thinking, keen man; he made an excellent trader and was successful in his bargains with the Indians for gold and pearls. When the expedition under Bastides was about to return to Spain they found that their vessels were leaking, holes having been drilled in their sides by a worm called the *broma* in those days,—to-day is known as

* "Voyages of Spanish Discovery," New York.

the *terredo navalis*. This destructive little creature I can best describe by saying, that he looks like a pale string of blanc-mange and is soft and gelatinous. His head is armed with such a sharp cutting apparatus, that he drills his way even into soft rocks, and his principal occupation seems to consist of cutting holes into woods, the hardest of which fails to resist him. Once domiciled in a piece of timber he makes a lining to his new home, which somewhat resembles a long, thin tube. The early Spaniards, whose vessels were destitute of copper, had great trouble with this pest of the South Seas. Many of the vessels of Columbus suffered from it. After a most difficult and dangerous passage, the ships of Bastides reached a small island off the coast of Hispaniola—or Spain the Less. To-day this is known as the island of Santo Domingo, or, to anglicize it, Saint Dominic.* Off that island their worm-eaten vessels went to the bottom, but they saved the greater part of their valuable cargoes. To all readers of the early history of that time the name of Bobadilla will be familiar. He was governor of Santo Domingo at that time. News reached him that these Spaniards were trading in the island without his permission. This was considered a direct menace to his prerogatives. Hearing of the approach of the wrecked crews to Santo Domingo City, he ordered their arrest, and Bastides was sent to Spain as a prisoner. The ships of the fleet that accompanied the vessel carrying him, were all lost in a dreadful hurricane. His vessel reached Cadiz safely in September, 1502, and he was released by the government. It was Bobadilla who ordered the imprisonment of Columbus in the island of Santo Domingo. It was an iniquitous transaction. The old square Moorish tower where Columbus was imprisoned,—in fact, chained to the floor,—may be seen in the city of Santo Domingo, to this day. Balboa remained in Santo Domingo, where he tried his hand at farming, but at the end of a few years all that he had acquired during that successful

* "Life of Columbus," New-York.

trip to the Terra Firma, was gone, and he was in debt; and that, under Spanish law, meant a bondage almost worse than death. His early life as a soldier, and then as a sailor, had developed the usual spirit of unrest, and he wished to revisit the Terra Firma, but could not do so, as his creditors would have prevented his escape. His fertility of thought and great executive powers, were well illustrated in the ingenious way in which he gave his creditors the slip. "He placed himself in a cask and caused it to be carried from his farm (at Salvatierra on the sea-coast) on board a ship which was ready to sail to the coast of South America. When the ship was fairly out at sea Balboa appeared from his cask, much to the surprise of the captain, who was very angry, and told poor Balboa he would put him ashore on the first inhabited island he reached. But Balboa told the commander his story, and he became less angry, and agreed to let him continue with him.

"The part of the South American continent which lies along the Isthmus of Darien had been divided by King Ferdinand into two provinces, the boundary line of which was carried through the Gulf of Uraba. The eastern part, extending to Cape de la Vela, was called New Andalusia, and the government of it was given to Ojeada." . . . *

The Spaniards at that time had an important settlement at Carthagena on the Spanish Main. This city lay somewhat to the south of the Isthmus of Darien, and it was Spain's stronghold in that part of the world. Ojeada, on the eastern side of the Gulf of Uraba, had founded a colony called by him San Sebastian. This was in New Andalusia. Balboa sent word to his friends in the Island of Hispaniola, and induced one of them, a wealthy lawyer, Bachelor Encisco, who had enriched himself practising there, to help him.

Bachelor Encisco sent word to his friend Balboa that he would supply funds for an expedition. He "immediately fitted out some vessels. And it was on board of

* "Balboa, Cortes and Pizarro," New York.

one of these that Balboa had caused himself to be conveyed in a cask in the manner which has just been mentioned."

Bachelor Encisco's venture promised to be unsuccessful. It was "while he was thus desponding, Balboa, who had escaped in the cask from Hispaniola and had taken refuge on board his ship, came to him, and proposed that they should go to a place which he remembered having formerly visited on the western side of the Gulf of Uraba. He told Encisco that there was a pleasant Indian village, at the time he made his voyage with Bastides, which was called Darien by the natives. The country around, he said, was fruitful and abundant and was said to contain mines of gold."*

This well timed advice of Balboa led to a settlement on the Isthmus, which Encisco named Santa Maria de la Antigua del Darien. Balboa's good judgment and sound common sense led to instant recognition, and he played a most important rôle in the history of the settlement. His discovery of the Pacific is already familiar to my readers, who, if further interested in this remarkable man, will find ample material in any of the several authorities quoted by me. The whole thing reads like some charming tale from the Arabian Nights. His discovery of the Pacific led to the building of Panama. From that city his fellow discoverer, Pizarro, set sail on the 14th of November, 1524, and discovered Peru, one of the wealthiest countries in the world; and while Pizarro and Balboa were pushing their investigations, Cortes was doing noble work in Mexico.

The tales of wealth and pearls that reached the continent and spread all over Europe, inflamed all with the execrable *sed d'oro*, or the "cursed thirst for gold," as the Spanish called it. I may be permitted to remark at this point, as a physician, that it is an old time disease, and that it seems to be as acute now as then. We do not go at our neighbors with gunpowder and cutlass; we

* "Balboa, Cortes and Pizarro," New York. See also "Voyages Spanish Discovery," New York.

fleece them quietly on the Stock Exchange and elsewhere, ours being a high phase of civilization. So disturbing were these rumors that Paterson started his scheme which led to the settlement in Darien, to which I have made reference, and which ended in such terrible disaster. It closed in the South Sea Bubble No. 1. Some four millions of pounds were invested in that, and so serious was the loss in those days that old England was threatened with bankruptcy, from which nothing but the enactment of special legislation saved it. Apropos of Paterson founding a colony in the Darien, it may interest some to know that M. de Lesseps, among his other concessions from the government of the United States of Colombia, has secured a tremendous slice of territory in that same Darien. Darien is noted for its woods, its poisonous snakes, and its dangerous fevers; it has a pestilential climate, and any attempt to colonize it with whites will be to consign them to death—but, as we know, M. de Lesseps is a famous Undertaker. In fact, parts of Darien are little better than a vast swamp.

The earliest church in the three Americas was erected in Darien, and it bore the name of Encisco's settlement, or Santa Maria de la Antigua del Darien. It was the see of the first bishopric on this continent. Later the diocesan had his cathedral in Old Panama.

The Mines del Rey, or the mines of the king, were there in Darien. Spanish officials controlled them, while the work was done by the unfortunate Indians of the country, whose treatment at the hands of the Spaniards was marked by the grossest cruelty—in fact, barbarity—until that excellent old man, Las Casas, interfered in their behalf, and secured at least a few rights for them.

A few years ago a French exploring expedition, while in Darien, recovered several breech loading cannon; they were from the ruins of an old fort. One of these most interesting pieces was presented to Bishop Paul, and, thanks to his kindness, I had an opportunity of giving it a crucial examination. I wrote a descriptive

article on it that appeared in Panama in July, 1884.* To me that old gun was most interesting. Finding a breech loader there, a gun certainly over two centuries old, greatly astonished me. It was of brass, a trifle over four feet long. Back of the muzzle rings, on a square was a large letter "R" (Rey—King); its mouth was three and one half inches across, and the trunnions were well back, and so placed as to give increased strength to the breech opening behind them. The gun gradually increased in thickness from its muzzle backwards; and from the trunnions to the cascabel, the thickness was an inch and a half. The breech block was not recovered with the gun. The breech was some four inches wide by six long, and the sides had been recessed to receive the breech block. The whole had been kept in position by a bar that passed through slots or openings in the sides of the breech. The gun was a substantial piece of artillery. Nearly three-fourths of its length were beyond the trunnions. It was sighted in the usual way, the foresight being just beyond the square section on which was the letter "R." The after-sight was also a straight line. To-day that historical piece, I presume, is in Santa Fé de Bogota, where Bishop Paul, late of Panama, presides over the interests of the Roman Catholic Church of Colombia, as Archbishop.

In closing this brief chapter on Darien, I would refer such of my readers as are familiar with Spanish, to Seis's "Vida de Colon," a work in three volumes, Barcelona, Spain. It is a mine of wealth on early day history, compiled from the old writers, such as Las Casas, Navarrette, "Varones Ilustres," "Viajes De Vespucci," and others. Seis's book is full of illustrations, and is of course trebly interesting to those who have visited the scenes that made the life of Columbus famous, in the mother country, on the Spanish Main, and in the West Indies.

Following the destruction of Old Panama, the governor cast about for a new site, and modern Panama

* *Star and Herald*, Panama.

was built, with whose history and fortifications the reader is familiar. The modern city once was attacked by pirates, but they were defeated. In this attack, Captain Dampier, a historic character, took part. Dampier was an extraordinary man and thoroughly acquainted with navigation and astronomy, as it was understood in his time. I may state that his surveys of the Gulf of Panama, until a few years ago, were the best extant. Some surveys were made of the gulf while I was a resident of Panama, and they confirmed Dampier's early work detail for detail. Dampier was not of the blood-thirsty type of Morgan's crew, he was rather inclined to be a gentleman privateer; but it is quite true when one of his schemes failed, he joined the buccaneers in an expedition directed against the Carib section of the Spanish Main. In the "Lives and Voyages of Drake and Cavendish," p. 325, is the following: "In the *Gazette* for the 18th of April, 1703, it is stated that Captain Dampier, presented by His Royal Highness, the Lord High Admiral, had the honor of kissing her Majesty's (Queen Anne's) hand, before departing on a new voyage to the West Indies."

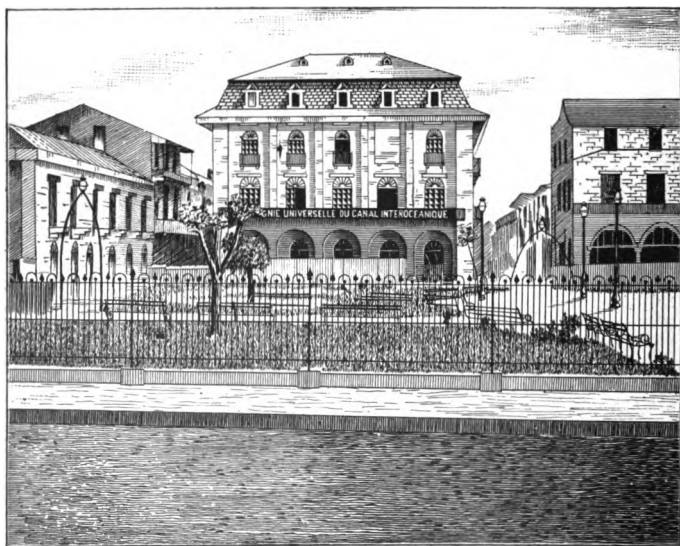
From the great mass of favorable testimony regarding Dampier I have taken the following:

"By French and Dutch navigators and men of science he has been uniformly regarded with the warmest admiration, as a man to whose professional eminence his own country has scarce done justice. They delight to style him 'the eminent,' 'the skilful,' 'the exact,' 'the incomprehensible,' Dampier. Humboldt has borne testimony to his merits, placing the buccaneer seaman before those men of science, who afterwards went over the same ground; Maltebrun terms him 'the learned Dampier,' and the author of the 'Voyage to Australia,' inquires, '*Mais où trouv  t-on des navigateurs comparables    Dampier?*' The acuteness, accuracy and clearness of his nautical observations, of his descriptions and general remarks, have made his voyages be assumed by foreign navigators as unerring guides and authorities in all subsequent expeditions; and his rapid-

ity and power of observation are fully as remarkable as his accuracy.

“When and where this remarkable man died no one knows, but it was his fate to sink unheeded among the conflicting waves and tides of society, and no memorial or tradition remains of his death, in whose remarkable life the adventures of Selkirk, Wafer and the buccaneer commanders of the South Sea appear but as episodes. So much for human.fame.”

Of Dampier one can read at least with some satisfaction; but of that blood-thirsty scoundrel, Morgan, with nothing but contempt and loathing.



CANAL BUILDING, CATHEDRAL PLAZA, PANAMA CITY.

CHAPTER XII.

WHALE FISHING IN THE GULF OF PANAMA—WHALEMEN OFF PANAMA—SOMETHING ABOUT THEIR OUTFITS, ETC.

FOR many centuries the Gulf of Panama has been noted for its fish, big and little, and as stated in an earlier chapter, the word Panama, from which the city is supposed to take its name, means "abounding in fish."* Many whalers made the gulf every year and came to anchor off "Islas de Naos." They came in there for new supplies and to discharge their cargoes of oil and bone. These were forwarded across the Isthmus by the Panama railway, to be shipped by steamer to New York. Sometimes they killed a few whales in the gulf. I remember having seen a vessel "trying out" not far from the city. Nearly all the vessels in that trade were Cape Cod or Nantucket whalers, with mixed crews of American and Cape Cod Indians. I presume it will be safe to say that the Indians are the original Americans. I made a number of visits to the whalers in the bay, largely in my professional capacity, and had many opportunities given me of inspecting them, and I found much of interest.

The tonnage of the vessels making the harbor of Panama is not large, perhaps an average would be four or five hundred tons. Many of them were brig-rigged and some of them were very old. I remember one that was said to be upwards of ninety years old, still good and seaworthy. The deck of a whaler in port; is best described by calling it a deck of confusion; all sorts of things seem to litter it up. Aft the foremast are the "trying out" works, huge kettles set in brick-work.

* "Encyclopædia Britannica," London.

About the deck one sees all sorts of appliances for the fishing. The names of a few I will inflict upon my readers. There is a boat-waif, a flag for signalling ; a boat-hook of the ordinary type ; paddle with a great broad surface, and the boat sails, strong and compact. There are buoys of various types, and lines for them ; chock-pins, short-warps, boat-hatchets, land-warps, boat-grapnels, fog-horns, line-tubs, boat-buckets, drags, nippers, compasses, anchors, rowlocks, hand-lances, single-flued harpoons, toggle harpoons, boat-spades, Greener's harpoon guns, bomb-lances, and bomb-lance guns. The harpoon is a sharp instrument thrown by the man in the bows towards the whale. If his aim has been accurate it sinks deeply into the flesh. When the slightest strain comes on the harpoon and its attached cords, the sharp cutting flue bends and remains at a right angle with the harpoon. This flue resembles one side of an old time arrow-head, it has a sharp cutting edge and a sharp point and a projection back of its connection with the harpoon : it enters straight but when the strain comes the pressure leaves it embedded in the flesh of the animal at a right angle. An old time harpoon compares with one-half of an old time arrow. It has an iron shank, is firmly fastened into a handle of wood, and the latter is attached to a line. These are two of the ordinary appliances for fastening on to the flesh. Greener's harpoon gun looks like a huge rifle, and from it is fired the bomb lance. This, properly aimed, gives the *coup de grace* to the whale.

"The boat-spade is used for cutting the cords about the small of the victim, or that portion of the body which connects with the flukes, crippling it and thereby retarding its progress through the water. The boat hatchet and knives are to cut the line should it get foul and endanger the boat when fast. The boat-waif is a small flag used as a signal, or placed in a dead whale to indicate its whereabouts. When struck the whale may attempt to escape by running. If so, every exertion is made by the boat's crew to haul up to the animal so as to shoot a bomb into it or work upon it with a hand-

lance ; or if the creature descends to the depths below, which is called sounding, every effort is made to check the movement by holding on to the line or by slowly slacking it. In this manœuvre the boat is occasionally hauled bow under water. Sometimes all the line is taken out almost instantly, when it is cut to prevent the boat being taken down, and the whale escapes. At other times the animal will bring to, that is, it will stop and roll from side to side or thrash the water with its ponderous flukes and fins, when the boat may be pulled within bomb shot, and the creature dispatched by one or more of its missiles."*

Having secured the whale he has to be towed alongside, and then commences the cutting up. All sorts of ingenious devices are used, suitable to the end in view. Having got the blubber on board, the "trying out" process is next in order, and the whalebone is secured.

Sometimes the whalers have good luck and oftener bad. When in luck, sometimes 180 barrels of oil have been "tried out" and stored in twenty-four hours, and in a few weeks many an empty ship has been filled or has secured a good catch.

There is considerable interesting information on the subject of whale fishery in the authority that I have cited. The American whale fishery is an exceedingly old institution and dates back to 1614. According to Capt. John Smith, the enterprise was prosecuted by the colonists along the New England coast prior to that date, and it was among the first pursuits of the colonial inhabitants of New York and Delaware.*

The right of whale fishing was guaranteed by Royal Charter in 1629 to the proprietors of Massachusetts, as being within their waters.* As early as 1700 they began to fit out vessels in Cape Cod and Nantucket ; that being the home of the fishery. Many of the vessels making the

* "The Marine Mammals of the Northwestern Coast of North America, 1874"; San Francisco.

† *Annals of Salem.*

‡ *Ibidem.*

Gulf of Panama, have done their fishing in the Japan Sea while others have been away up in the Arctic. The huge casks of oil are discharged at Panama, the vessel takes in a new supply of stores and clears once more. At times during their stay at Panama, yellow fever gets into them, and it was from this that I became acquainted with the whalers.

The cockroaches on those boats are something enormous ; I have seen them an inch and an inch and a half long, and have been told by men how these pests bother them at night, by biting under the nails of their toes, between the nail and the quick. There is a fact in connection with cockroaches that I will take the liberty of mentioning at this point. A cockroach in scientific phrase, I believe, is the *Blotta indica*. In the East Indies he is said to be a small insect, but he, in common with many others, thrives better abroad than at home. In the tropics you will find him an inch and an inch and a half long, armed with a good strong pair of wings, with which he will fly into your quarters at night attracted by the light, and there make himself thoroughly at home. I have seen some large ones, two inches long, and on one occasion it was my good fortune to find one that was pure white. I sent it to the Rev. Dr. Samuel Lockwood as a curio. Cockroaches on board of a whaler within the tropics, where there is so much grease and everything else, are thoroughly at home. What faces them "is a condition, not a theory," and they know what to do with it.

Quite apart from the whales occasionally 'seen in the Bay of Panama there is another fish there whose constant presence is a source of considerable anxiety to sailors and others; I refer to the shark. The Gulf of Panama is noted for them and there are a number of varieties, among others, that most voracious of fish, the ground shark. Sailors will tell you that he will lay down close under the bottom of a ship waiting for something to turn up, and when it does he is there. I can recall two accidents in the bay where bodies were recovered that had been badly eaten by sharks. One was

a case where a man was drowned near the islands, and his body was badly mutilated by them. The other case happened while I was at the Isthmus in March last. One of the canal engineers, a prominent young Colombian named Jules Patterson, the chief of section at the Boca works of the canal, fell into the bay while going on board a dredge. His body was not recovered for a few days, and was with difficulty identified, for it had been almost completely stripped of flesh. A peculiar looking fish to me is the hammerhead shark. Twice while on steamers in the bay I have seen them, and most uncanny looking animals they are. They are dull slate color, as seen from above, have small eyes, set well back in the head. This fish has his head flattened out at right angles to the body, and hence the name "hammerhead" shark. The bay is so full of these creatures that swimming off Panama is exceedingly dangerous.

When in the previous chapter where I spoke of the British ship *Straun* in the doldrums, I referred to the sailors having caught and tortured sharks. The sailors of all nations are the sworn enemies of the shark, and they torture them in many cruel ways, forgetting that the animal is no more responsible for its existence than they are for their own. The process of crucifying a shark is as follows: the animal is hooked, if a small one, and drawn on deck. While care is taken to see that he cannot use his terrible mouth for biting, he is laid down on boards and his fins are securely nailed thereto in such a way that he cannot use them. The tail is then cut close off, and the unfortunate animal is thrown overboard. He cannot swim, and he cannot steer himself. He is helpless; and the other members of his own family promptly attack and devour him. This process of fishing for sharks is a very common pastime with sailors. A huge hook is used, baited with a piece of pork that may weigh two or three pounds. It is fastened to a very strong piece of wire or a light piece of chain, the latter secured to a fairly strong line and dropped overboard. Once while on the Pacific mail steamer *City of*

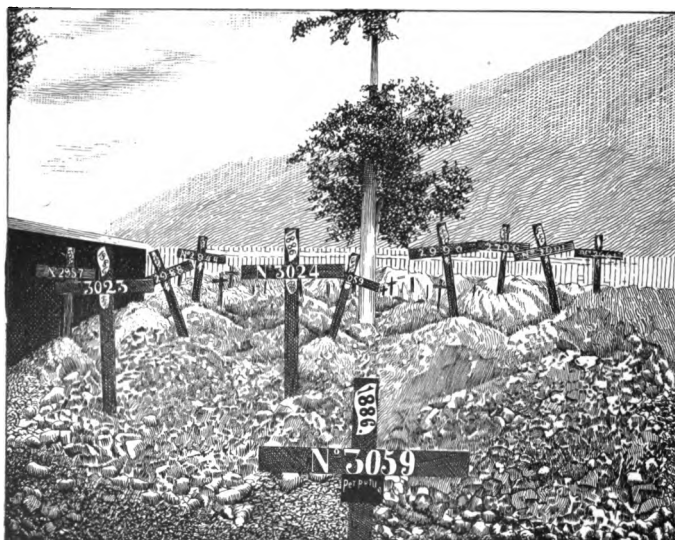
Panama, off the west coast of Mexico, the sailors hooked a shark. He was an enormous fellow. They hauled him up to the side. His length from the tip of his nose to the end of his tail was nine feet. The hook had lodged in the back part of his throat. In coming up his head came in contact with the stout red pine rail of the ship, and his mouth closed on it like a vise. You could hear his teeth crunching into it. I was on the upper deck and by looking over could see down his throat, the lining of which was a pearly white, and in the gums were the terrible rows of saw-like teeth. The majority of the crew on that vessel were natives of the coast; and nothing could keep them from their cruel sport. They passed a sling around his fins and tried to detach the hook by cutting it out, taking remarkably good care to keep their hands out of his mouth. At last they cut through outside and cleared it. They then gouged the unfortunate animal's eyes out. That done the unfortunate fish was lowered into the water, and despite the fact that he had been out of it perhaps as much as fifteen minutes, he commenced swimming about vigorously. He went down, struck against the ship's side, came to the surface and disappeared. No doubt below he fell a prey to the members of his own family.

Passing from great fish to little ones, the only poisonous fish, properly so called, in the Pacific, was one that was discovered by Capt. John M. Dow, of Panama, a gentleman whose name is well known in scientific circles the world over. This fish buries his body in the sand; and as his eyes project far beyond the body he watches for his prey. Another most interesting small fish is the *Anableps Dowii*, also discovered by Captain Dow on the coast of Central America. I had heard about it and I had read about it, and one day while wandering along the coast near Champerico, in Guatemala, I turned inland and looked at some lagoons. While examining them and their formation I noticed a number of little things moving on the surface of the water. At first I paid no attention to them; but I noticed that they

were in pairs, and that they moved about with great regularity. This at once attracted my attention, and I stole quietly forward to have a look at them, and to my astonishment found they were fish, with their eyes out of water. Then it flashed upon me that I had come across some of the captain's friends. The *Anableps Dowii* is an exceedingly interesting fish. He is called four-eyed, as the upper half of his eyes have much in common with the human eye; that is, he can see with it through the air or space. The lower half is a fish's eye, properly so called, and the anatomical make-up differs somewhat from the other. While sailing along gracefully with all their eyes on business, they can look along the surface of the water and down below at the same time. Several times I went to that point to watch their movements; it seemed so strange just to see two little black balls moving about. The science of Ichthyology has been greatly indebted to Captain Dow for many years of close research; and his name will go down to posterity on the backs of many fishes. Nor have his efforts been solely confined to that branch of natural science. One of the most beautiful orchids found in the mountains of Costa Rica is named for Captain Dow. It is called *Cattelaya Dowiana* and it is described as the queen of the orchid family. It is a pure white, and is found only in a given section of those mountains. One superb mass of these orchids that was sent to a London dealer, sold for the handsome sum of £1,000 sterling.

I trust to be pardoned if I relate an o'er true tale about the captain in the days when he was busy dredging for specimens of marine life. It would seem that on one occasion while at anchor awaiting cargo he had spent a whole day dredging. The contents of his dredges had been put in two buckets on the upper deck, prior to scientific investigation and classification. The story runs that while Captain Dow was at dinner a seaman came along and thinking that some careless fellow had left a couple of buckets of water there, and knowing the captain's love of discipline, promptly

emptied the two buckets overboard. The chief officer discovered the error and sent the man below, otherwise there might have been an investigation that would have had a most unsatisfactory scientific result as far as the sailor was concerned.



IRISH RESIDENCES, PANAMA CEMETERY.

CHAPTER XIII.

THE SEASONS ON THE ISTHMUS—TERRIFIC THUNDER AND LIGHTNING—DRY SEASON WEATHER—MOONLIGHT AND STARSHINE—THE EFFECTS OF A STORM ON A CANAL EMPLOYÉ—EARLY MORNING IN THE DRY AND WET SEASONS—ITALIAN SKIES.

THE seasons of the Isthmus are two in number, the wet extending from about the 15th of April to the 15th of December. The amount of rain that falls is astonishing ; it has been given as 128 inches per annum. This, when compared with the small rainfall in Egypt of nine inches, where M. de Lesseps built his ditch through the sands of Suez, is suggestive.

When the rains come in early and regularly, it means a fairly healthy wet season, that is, of course, for the Isthmus. When the rains are irregular or late, it means a sickly season, and in the hot days between rains, yellow fever develops case after case. Then the rains come on, and there is a marked diminution in the number of cases. Again, after hot sunny days without rain, a new crop of yellow fever cases results. During the rains there are many storms of thunder and lightning. Some of these storms within the tropics are simply awful. During one particularly bad storm lightning was reported to have struck within the city five times and the crashes of thunder were deafening. I have seen that metallic appearance of the atmosphere, due to the immediate vicinity of lightning; and following a severe storm, have noticed the highly ozonized condition of the air, due of course to the electric currents. It was so noticeable as to be appreciable to the senses.

Following the advent of the canal men to the Isthmus on the 28th of February, 1881, they had their temporary

offices in a huge building facing the sea. It was near the old Aduana, or Custom House. Among the staff was an awfully jolly Frenchman, who was the *farceur*, or joker of the office. During one of these storms the lightning struck back of the building, and nearly opposite a window where he sat at his desk, while following it there was a terrific crash of thunder. A number of his fellow clerks rushed to that side of the building, thinking that it had struck near there, when their compatriot, the *farceur*, was found creeping on all fours towards the door or hallway. The lightning had struck within 150 feet of the building, and some of it had been playing over an iron fence near their office. It seems that he fell off his stool in a dazed condition, and commenced to creep off. That storm utterly ruined him as a joker, for his dignity was gone. While it is all very well to laugh at these things afterwards, at the time they are awful enough. Of course people are never afraid under such circumstances, but they do become intensely sociable and gregarious.

That storm developed another remarkable fact. A resident in that part of the city requested permission from the city authorities to put up a lightning rod. The matter was duly submitted to the Alcalde and council. They refused, stating that it would be dangerous to place a lightning rod there, as it certainly would attract the lightning. This is an absolute fact. There are no associations in that part of the world for the "Advancement of Science," or, for the matter of that, for the advancement of anything else.

The rain often seems to fall in solid sheets of water, the streets being flooded from curb to curb. Such storms clear away as rapidly as they come up, when the sun will light up the green and temporarily clean streets of Panama. Nearly eight months of the year are rainy months. Of course it doesn't rain all the time, but heavy rains may come on at any moment, and during these months all out-of-door work must temporarily cease. With the deep cuts on the canal they play sad havoc, as an immense amount of earth that has been

thrown out naturally washes right back into the cut. The canal company modestly estimate this at five per cent. Following one of these storms a deep cut on the Colon side of the divide was filled, covering the machinery and all. The long wet season on the Isthmus has been a most serious drawback to canal construction, but, as all know who are familiar with the early history of the Panama Canal, this practically was entered upon without any previous knowledge whatever, further than that there was an Isthmus to divide to reflect glory upon France and give unlimited dividends to bondholders. But of the Panama Canal more anon.

The dry season begins about December 15. By many it is considered the pleasantest season of the year; and it is the so-called healthy season. The majority of things are comparative in this world, as we know, and, as a witty actor in "Nadja" has said, "Everything depends upon something else." It seems to be that way on the Isthmus. It will be well to bear in mind that neat division of the seasons by the Dean of the Medical Faculty at Panama. He said in the wet season people died of yellow fever in four or five days, while during the dry, or so-called healthy season, they died in from twenty-four to thirty-six hours of pernicious fever. If strangers do not recollect this, the seasons will.

The dry season at Panama is noted for cloudless blue skies—Italian skies,—and the grandest of tropical moonlight. During this period the starshine is grand, and the stars can be seen almost down to the horizon,—a fact noted by the early Spanish discoverers and chronicled by them in their many writings.* In my wanderings I never have found anything to compare with the moonlight of the dry season there. Reading large type in the open was possible.

What astonishes a stranger is that the Colombians do not take a great deal of out-door exercise. The women of the upper class are great stay-at-homes, and are almost perpetually in doors.

* "Life and Voyages of Columbus."

The early morning during the dry season is very pleasant for picnics, and for hunting parties. Owing to the excessive humidity there, the forests and hills are green all the year round—but greenest of course during the wet season. Early morning during a clear day in the wet season is particularly enjoyable. When the sun rises and the quaint old city of Panama is seen from the sea, its background lights up and forms a most effective picture.

It almost seems as if Nature had provided herself with lightning rods in the palm trees. These large trees certainly seem to attract the electric fluid. In any locality where palms abound, particularly the lofty trees, one notes many trunks without a single branch above. When lightning strikes one of these magnificent trees the foliage falls away, and what was a most graceful tree becomes a mere whitish trunk. I have made careful inquiry about this in various places, and have had the fact confirmed repeatedly.

In a country like that, where all is perpetual summer, the average temperature about eighty, and the average humidity nearly as great, vegetation is of very rapid growth; and, apropos of humidity, there are places on the upper levels of the Isthmus where it nightly is 100°, the point of saturation. But these conditions make vegetable decomposition as rapid as the growth. The result of the whole is the creation of an intense miasmatic poison. People living on the Isthmus are all malarious, either in one form or the other, and it is impossible to avoid this. It is true that a few escape malaria while resident there, but they no sooner get into temperate climates than it develops. The sallow faces of a great many tell of paludal poison. My friend Dr. L. Girérd, late Chief Surgeon of the canal company, instituted a series of most interesting experiments. He examined the blood of new-comers—canal men—and found it in a perfectly normal condition. At the end of a month he examined it again, when he invariably found the malarial bacillus. He was a profound microscopist, and his work in connection with yellow fever was most credit-

able.* Regarding the latter he made a culture of its specific poison, or micro-organism, if you will, and inoculated himself, having a mild form of the disease. There is another factor that has a bearing on this subject of malaria on the Isthmus. It is the admixture of salt and fresh water in the lagoons and rivers in addition to the vegetable decomposition already referred to. This admixture of water is considered to be of great importance in creating intense forms of malarial poison, particularly on tidal coasts like that of the Pacific.†

The winds have a marked influence on disease, both at Panama and at Colon. Sometimes one side of the Isthmus will be fairly healthy, while the other has a lot of yellow fever; and then the converse obtains. South winds at Panama were considered by the natives as being unhealthy. The canal company have built houses above the malarial belt so called, where their workmen are safe; but where the malarial belt begins and ends, "is one of those things that no fellow can understand."

* "Paludism," Dr. Girérd, Paris, 1884.

† "Le Fievre Jaune"; Bellot, Havana.

CHAPTER XIV

VITAL STATISTICS—CEMETERIES—MODES OF BURIAL AND UNBURIAL—THE ISTHMUS CONSIDERED AS A DISEASE PRODUCING AND DISTRIBUTING CENTRE.

BY vital statistics one understands reliable figures on the birth and death rates. Such are not obtainable on the Isthmus of Panama. There is a form of registration regarding births, which is sometimes published, and it goes to show that among the lower classes—that of the Juan and Maria type—from sixty to seventy per cent of the births are illegitimate. Absolutely accurate returns regarding the burials are difficult to obtain, as the great bulk go into the Colombian or Roman Catholic cemeteries. The foreign cemetery receives both Protestant and Roman Catholic. The Jews have a walled-in inclosure of their own, which is the best kept of all those on the Isthmus. The Chinese have one, beyond the Colombian, on the right of the road going towards the Boca.

The formalities attending the opening of cemeteries on the Isthmus are somewhat peculiar. Two I recall perfectly. When the Chinese cemetery was opened the leading Chinamen invited a lot of the government officials and citizens. I was honored with an invitation, and went out to the new burial ground. It was a bright clear day and there was a lot of ceremonial and beating of tom-toms for music within the inclosure. A roasted pig was exposed with other things, for the refreshment of the Chinamen who had got through with their business on the Isthmus and were supposed to be in the "sweet-by-and-bye." Following that the guests were driven into the city to a sumptuous entertainment. Between every two plates there was a bottle of champagne, and other wines were supplied as well. This



BOVEDAS, PANAMA CEMETERY. NATIVE GIRL IN POLLERA.

opening of the cemetery was somewhat new to me as it was the first one that I had seen. Medical men are generally considered as being better at filling them. Apropos of that roasted pig, it was an uncommonly toothsome looking article. It was left out in the newly consecrated cemetery for a time only, when it was brought into the city. According to the custom of the Chinese these things are left to the departed, and if they fail to take advantage of their opportunities within four and twenty hours, the responsibilities of the living are at an end, and what was put there for the special delectation of John Chinaman "as was," is considerably partaken of by John Chinaman "as is." There is a clearness of reasoning about this Confucian theory that is very pleasing.

While I was on the Isthmus the new government cemetery was opened with great formality. From my knowledge of these places in the past, I inferred, that apart from consecrating the ground, nothing further was necessary, but some of my old time beliefs have been sadly upset by travel, and by measuring what little I knew by the great unknown. Late in July, 1884, a new cemetery with bovedas was opened, and the ceremony attaching to it threw the opening of the Chinese ground into the shade. This cemetery not only was consecrated, but there was a military guard present and a band of music, and no end of speeches were made. In fact, the whole thing took on a joyousness that was absolutely astonishing to a gringo, or foreigner. Important government functionaries were present, consular dignities were invited, and, in short, the city took on a holiday appearance. The enthusiasm regarding that new cemetery was something astonishing, and the only thing that surprised me was, that some individual did not promptly step to the front to contend for the honor of being the first buried. Between the opening, in July, 1884, and the 12th of April, 1886, when I made a special visit to the Isthmus, that cemetery had received 3884 bodies for burial in the ground, and several hundred had been placed in the stone niches, or bovedas. Not only had

the new cemetery been filled, but in a section of ground back of the cemetery, in what was part of a large field, there were some dozens of graves. The latter had been opened without any brass bands or government speeches, or any attendance of the consular corps.

The old cemetery was on the left. It was a small place of about three-fourths of an acre, and it received all the poorer classes and patients from the Charity and Military Hospital and the Canal hospitals. Owing to its small size it was dug up year after year; bones and skulls, fragments of coffins, clothing and all sorts of things were turned out. The liberation of untold millions of disease germs in that country, will make clear to thinking people why the Isthmus is so unhealthy. From time immemorial the Isthmus of Panama has been recognized as one of the plague spots of the world. It can vie with the west coast of Africa in pestilential disease. But for the fact that it is on one of the world's greatest highways between the Atlantic and the Pacific, the systematic unburial of the dead, under the direct sanction of the federal government (they do nothing to check it while knowing all about it), and the consequent distribution of the germs of yellow fever and small-pox, would be of little moment. I say "would be of little moment," for if the people of those republics are willing to commit suicide in that form, so be it. But, owing to the importance of the Isthmus, called by Paterson the "Gate to the Pacific and the Key to the Universe," these insane and unsanitary procedures should be stopped. The practice that I have referred to regarding that old cemetery and the unburial of the dead came to an end for a time. Together with the late Mr. John Stiven, of Panama, I denounced the system through the columns of the *Star and Herald*, of Panama, and *La Estrella de Panama*. So vigorous was our language that it led to the construction of the new cemetery, and people interested in the matter of public health, hoped that that most pernicious of practices had ceased; unfortunately such was not the case. On the same side of the road adjoining the cemetery just mentioned, was *The Ceme-*

tery, a large quadrangle of bovedas. Facing the highway was a stone fence and an old time arched gateway of stone. Entering it, one had a full view of what was within. It was a quadrangle of niches or bovedas. Picture to yourself four sides of a square having three tiers of openings in them, one below, one between, and one on top, each opening being large enough to receive the coffin of an adult, and the whole whitewashed and backed by a substantial stone wall. Within the enclosure were several monuments to some people who had been buried permanently. I used the word "permanently" advisedly. The exact custom which obtains there is as follows. These niches are rented for the space of eighteen months. The coffin is placed within, and the end is closed either with brick work or with a marble slab having a suitable inscription. At the end of eighteen months, failing a prompt renewal of rent, the coffin and contents are evicted. The eviction is of the most thorough type; it would put an Irishman "to the pin of his collar." The individual holding the concession has his men working within the grounds. If the rent has not been renewed; they remove the little marble slab or brickwork and the coffin is taken out and dumped back of the cemetery. Such was the custom prior to our denunciation of that form of unburial of the dead. In the fall of 1882 I made the acquaintance of a special correspondent of the *Brooklyn Eagle*, who had seen much in many places and under many circumstances. I promised to show him something that, I took the liberty of thinking, he had not seen previously. He was a pushing, vigorous fellow, and willing to go anywhere and see anything, as long as it gave him some descriptive matter for his paper. I took him back of the cemetery now under consideration and directed his attention to seven and sixty coffins, in all sorts of positions and with all sorts of contents. My readers will be kind enough to remember that the people who are buried in the bovedas invariably belong to the better classes. I took him about among the broken coffins, and the whole coffins, and the skulls, and the bones and the ashes, and

everything else. There they were, just as they had been thrown out. In the great majority of cases the lids of the coffins were off, or had been broken, and within were the restos, or remains, of former prominent citizens, the majority of whom, of course, were natives. In one coffin were the remains of a woman, and she had had a magnificent head of hair. I must say that the entertainment rather upset the *Brooklyn Eagle* man, and he was unwilling to stay and hear more about it. The fact that I had made a good collection of crania which I had sent home to Canada, ceased to interest him, and he was very glad to get away from the place, admitting that he never had seen the like.

I do not wish my readers to fancy that all are absolutely devoid of respect for the remains of their friends. In a few instances the dead had been permanently located in these niches; in others the bones had been taken away and placed in some of the churches. It is customary there, after the eighteen months have expired, to take the long bones and the skull and have them buried in some of the churches, either under the floor with a suitable slab, or built into some wall or column. In a very few instances they are buried in small lots in a suitable enclosure, with a monument or tombstone over them.

This is what obtained in the native cemeteries, and I regret to say obtains now.

In the Foreign Cemetery, in the Jewish Cemetery, and the Chinese Cemetery, there are no unburials of this revolting type. The only unburials there are, are such as obtain elsewhere throughout the world when bodies are sent home to friends. A peculiar thing regarding this business is that according to the laws of Colombia nobody can be disinterred under twenty-four months. But the *Concessionaire* is a law unto himself and he unburies at his own sweet will. I can remember cases where people abroad were most anxious to have the remains of their relatives that had been buried on the Isthmus sent to them, in one instance to San Francisco, in another to New York; but the law in their cases was

law, and the bodies could not be removed until the twenty-four months had expired. In the meanwhile the individual holding the concession from the government buried and unburied at his pleasure.

As already stated, it was hoped that when the new cemetery was opened the disgraceful scenes of the past were over forever, but such has not been the case. The present *Concessionaire* is (or was) Senor Nicanor Obarrio, who holds a direct concession from the government, and he it was that had the new cemetery built under that concession. As I have already informed my readers, it had been more than filled between the dates given. While on the Isthmus during March, 1888, I went out to see how things were in the new cemetery, and you can fancy my astonishment at finding that all the numbers on the graves had been doubled. That large plot had been filled and over each grave was a simple wooden cross, painted black. Above was the number of the year, "1884," and on the arm of the cross the number of the grave. As I have said all the numbers had been doubled. For instance, you would have, say, "3640" on the arm of the cross, below that "1888" and above it in a scroll "1886." The wherefore of it was as follows: In 1886, 3640 was the first occupant, but, as that cemetery had been dug over from end to end, he had been evicted, and twice 3640 was the number of the grave in 1888. Not only were all the numbers in that main cemetery duplicated but they were digging over the cemetery at the back.

I am fully aware of the fact that this seems a remarkable statement, so remarkable indeed that when relating it to some new acquaintances in the British Islands of Trinidad, they looked at me with that polite incredulity that seemed to indicate that they thought that much travelling had not improved my veracity; and it was only when I produced some photographs, there and then, showing the graves with the double numbers, and the digging up of the old graves, that they could believe me. One of my photographs was a revelation to them. In digging up these graves the diggers occasionally came

upon a coffin that was in fairly good order. A number of these had been placed upright, leaning against the back wall of the cemetery. These second-hand coffins were for sale to any one who wanted a luxury of that kind. But for the fact that I had my photographs with me, I feel confident that my statements would not have been accepted as true. But there they were ; there was the row of coffins, the double numbers on the crosses—"1886" above and "1888" below.

Now from a sanitary standpoint, what does all this unburial result in ? It results to my mind, if I understand anything about this matter, that from this criminal practice of liberating untold millions of germs of disease the Isthmus is made a disease-producing and disease-distributing centre.

I particularly wish to emphasize this statement, and shall do so in this way. That Colombian cemetery receives nearly all of the dead from the Canal Hospitals. An immense number of the deaths among their men is from specific yellow fever, properly so called. As that is a land of perpetual summer, perpetual sunshine, and perpetual moisture, these germs when liberated find a congenial soil. As the yellow fever germ is one that flourishes at a temperature of seventy-two, and, as the average temperature is 80°, it goes without saying that these germs never die out there. Another fact in this connection. Small-pox never is absent in those countries. From time to time there are outbreaks, and two years ago, following the unburial of the dead in the cemetery that I am now describing, there was one just beyond the cemetery at La Boca de la Rio Grande, and there were a great many deaths. My readers must bear in mind that thousands are unburied there annually to this very day and this very hour.

While I was at Panama a number of foreign physicians tried to bring about a different state of affairs. We wrote letters to the press. While the attempt exposed the situation and its dangers, no good came of it. The series of letters to which I make reference was published in the *Star and Herald* by George E. Gas-

coigne, M.D., C.M., M.R., C.S., England, Benjamin Stammers, L. R. C. P. & S., Edinburgh, and the writer. As I have already stated, if people wish to commit suicide, from a practical standpoint, let them do it; but let them do it in a way that will not endanger others.

My readers will at once appreciate the danger to all countries doing business with the Isthmus of Panama, or by way of the Isthmus of Panama, as hundreds of thousands of packages of freight cross the Isthmus from the Pacific to the Atlantic and from Atlantic to Pacific, and are distributed in all directions, even to trans-Pacific ports. That these packages are the bearers of disease is well known. The west coast of the Republic of Mexico owes the endemic presence of yellow fever to the Isthmus of Panama, and all students of that awful disease are well aware that it was by way of the Isthmus that it was distributed up and down the coasts of Central and South America, in many of the ports of which it is permanently domiciled. It is quiescent at times, if you will, but when the suitable conditions obtain, with an unacclimated population, it asserts its sovereignty.

I have shown how physicians vainly endeavored to bring about a reform. Certain it is that nothing can be expected of the government of the Republic of Colombia as at present constituted.

There is but one way of handling these things. It is by international pressure. We are all aware of the fact that when a small power in Europe is likely to disturb the peace, its neighbors say, "We will have none of it," and that is the end of it. Now there is a power controlling one of the world's greatest highways, and while it absolutely depends upon other countries for its traffic, it is a disease producer and a disease distributor.

To prevent the slightest mistake in connection with this statement I refer my readers to the Report of the board of health of the State of Louisiana, for the year 1882 and the first six months of 1883. On pages 239, 240 and 241 will be found a long letter from Dr. Daniel Quijano Wallace, then president of the board of health of the

State of Panama. It was in reply to a letter from Dr. Joseph Jones, then president of the board of health of the State of Louisiana, in which he regrets the deficient organization of the sanitary service of the State of Panama. In the eighth paragraph of that long letter, President Wallace speaks as follows:

"It is sad to confess that of the thirty-three powers represented at the sanitary conference in Washington, Colombia was the only nation that had no sanitary service properly organized, and that did not officially register and publish the prevailing diseases, the death rate and information relative to public health."

At the close of paragraph two is the following:

"I communicate that the actual sanitary condition of the ports of Panama and Colon is in general good, as at present no epidemic disease reigns, it being well known that small-pox, the yellow fever and the paludal fevers, in their infinite varieties and forms, never are absent in these intertropical regions where they are truly endemic."

"Comuniqueseles que el estado sanitario actual en las puertos de Panama i Colon es por lo jeneral bueno, pues no existe al presente epidemia reinante ninguna, siendo como es conocido que la viruela, la fiebre amarilla i las fiebres palustres, en sus infinitas variedades i formas, nunca feltan en estas regiones intertropicales en donde son verdaderamente endemicas."

I give both the original Spanish, as published in that report, and the English, that there may be no doubt in the minds of my readers as to the oft repeated statement regarding the insanitary condition of the Isthmus of Panama. Dr. Quijano Wallace is a Colombian by birth, a man of excellent education, and we served on the State board of health jointly for a time. You will be kind enough to remember that a son of Colombia makes the above statment. The date of Dr. Wallace's letter is, Panama, October 13, 1882.*

* See also Ninth Biennial Report of the State Board of Health of California, page 220, *et seq.*

Apropos of yellow fever and epidemics, the following statement will be somewhat interesting:

"In September, 1884, the harbor of Colon was full of shipping. The latter became infected; the *Effecthia*, a brig, lost all her crew but the cook. Two French steamers of La Compagnie Generale Transatlantique, named the *N. Bixio*, and the *Fournel*, lost twenty men. The Royal Mail steamers *Larne*, and *Nile*, also lost a few between September and January, 1885. One hundred and seventy cases had occurred there, with a mortality of over two-thirds. I saw the records when in Colon, in February, 1885. I visited Colon purposely to see things for myself. The English ship, the *City of Liverpool*, had six cases on board. She was at the dock, and within twenty feet of her stern was a large pile of rock-ballast from Bohio Soldado, being that sold by the Panama Railway to all vessels requiring it. The *Grace Bradley*, an American three-masted schooner, was in the berth next to the *City of Liverpool*. She had discharged her cargo of ice and was taking in the ballast. Two of her crew sickened with the disease and died. She sailed for a southern port, United States of America, with a foul bill of health from United States Consul R. K. Wright, Jr., of Colon. She arrived at a Southern port late in the fall, discharged the ballast on flat cars that dumped it into the sea, and proceeded direct to Philadelphia. This infected ballast some day will speak louder than words to the people of the South. It comes from an infected port. Ballast of this kind caused three cases of yellow fever in New Orleans, in 1882. The ballast was thrown on a street there." *

I have reprinted the above from one of my articles on yellow fever; my object in doing so being to illustrate the value of some bills of health issued to the shipping by the civil authorities on the Isthmus. The *Fournel*, the vessel referred to, lost her captain and nine or ten men. They wished to clear her and applied to a doctor

*Yellow Fever in Vera Cruz, and Colon in 1882; "New Orleans Medical and Surgical Journal," 1884.

in Colon, personally known to me, and he issued a foul bill of health. The steamship company would not accept it, but referred the matter to the general agent in Colon. He in turn approached the government, the then acting president issued a clean bill of health, and the vessel went to sea from a hot-bed of the disease.

In the month of September, 1884, the Canal Company buried 654 officers and men. Perhaps a day may be coming when cremation may be introduced on the Isthmus of Panama, and it would be an effectual way of getting rid of such disease producing bodies. The disposal of the dead has been attracting the attention of scientists for some time past, now that graveyards and cemeteries are recognized sources of disease, particularly within the tropics. In the January number (1888) of the "Nineteenth Century" there is a paper of considerable value on this very theme, by Sir Henry Thompson, from which I shall briefly quote:

"Medical and physiological science too, is daily diving deeper into the cause and origin of disease, and modern discoveries tend to show that infectious diseases, and especially those which are distinguished as *zymotic*, are due to minute organisms, to which the names of *microbes* or *bacteria*, or the more general term of *germs*, have been given, and which have a force and vitality capable of resisting many agencies destructive to ordinary life and even bidding defiance, under favorable circumstances, to the all-conquering power of time itself. It has been clearly proved that these organisms, so far from being destroyed or rendered harmless by the burial of a body, the life of which has been destroyed by them, flourish exceedingly on the products of decomposition and putrefaction, and may at any time be brought to the surface and again set free on their devastating course, by the action of earthworms or by any other cause that may disturb the soil.

"This is particularly the case with splenic fever, germs of which will even affect the grass, growing over the buried bodies of cattle that have died from it, and

will infect any living animal that feeds upon this poisonous herbage. Malarious fevers, and especially Roman fever, so fatal in the Italian marshes, are well known to be due to *bacteria* which exist in the very soil itself; and it is generally believed by scientific men who have made infectious diseases a study, that scarlet fever, typhoid fever, small-pox, diphtheria, malignant cholera, and many kindred diseases, are communicable from the decomposing remains of persons who have died of these disorders and been buried in the customary manner.

"None can deny that in a purely sanitary sense, cremation offers the most perfect method of disposing of the dead.

"The objections to it, indeed, are of a purely sentimental character and will not for a moment bear the attack of calm argument, while the religious objections can only be upheld by the narrowest bigotry and most stupid superstition.

"In the ordinary method of disposing of the dead, that of burial, nature resolves the human body into its original element by the slow decomposition of putrefaction. This process is often delayed far beyond the natural period, which is itself long, by unwise and morbid efforts to preserve the inhumed body as long as possible, by encasing it in air and water tight envelopes of various substances. The Egyptians, as we know, carried this to its extreme in the embalming of their dead so effectually as to preserve their withered human tenements for thousands of years. Surely, to a refined imagination, the tedious process of putrefaction of a person who has been dear to us, is far more loathsome and abhorrent than the idea of a rapid decomposition of its constituents by the agency of fire. This decomposition is just as natural as that of putrefaction. In both cases the elements composing the human body are liberated and become free to form fresh combinations in the ever active laboratory of nature, but in the one case, this is a process extending over years, and in the mean time spreading disease and death among the earth's inhabitants; and in the other, the aid of science, the handmaid

of nature, enables us to distribute the elements of the poor human body, and utterly to destroy dangerous germs, in the course of an hour's incineration.

"One very serious objection and one worthy of every consideration is, that the total destruction of a human body by fire, would remove every trace of crime in a case of poisoning, and that the murderer would have no dread of the silent accusing witness that could be called up by the chemist's skill, to confront him from the buried body of his victim. Cases of exhumation of bodies for chemical examination are, however, very rare, and proper legal safeguards and official examination and certification in cases of suspicion, before the body was committed to the furnace, should afford ample protection to society.

"The religious objections, or rather the objections based upon religious grounds, are hardly worth the trouble of combating. No intelligent person can suppose for one moment that the intentions of the Almighty can be in any way obstructed by hastening by a few years the process of decomposition.

"When it is considered that the health and happiness of the living depend so greatly upon the proper disposal of the dead, when it is seen that, in the neighborhood of all large centres of population, the overcrowded cemeteries and graveyards are ever increasing sources of difficulty and danger to the community, and when the education and intellectual development of the present age are so rapidly freeing the mind from superstition and opening it to the truths of science, few will deny that the advocates of the cremation of the dead have both moral and scientific truth on their side.

"It will be very long before many centuries of custom will give way before scientific truth, but the day must come when mankind will be forced by dire necessity, to resort to a method of disposing of the dead, more in accordance with well ascertained laws of hygiene, than the present mode of inhumation."

That the idea is, even now, making headway, is clear from Sir Henry Thompson's statement in his paper, that

in Italy alone, since 1883, 787 bodies have been cremated in different cities, while in Germany, in the same period, 473 bodies have been thus disposed of.

As an old and earnest student of all matters pertaining to public health, I sincerely trust that the press of this great republic will take this matter up, and keep on agitating, and agitating, until the public is thoroughly familiar with the dangers constantly menacing it from sources like the Isthmus of Panama. I refer of course to the danger of yellow fever and small-pox, but particularly to yellow fever with reference to the Southern United States. If an argument were necessary to make my statements conclusive and final, I simply have to point to the epidemic of yellow fever that has been sweeping a part of the State of Florida, an epidemic whose history dates back to Tampa, and the limited epidemic there last summer and fall. That outbreak was traced to a schooner engaged in, smuggling; and previously thereto some filthy passengers from Havana—wandering Turks—had landed in Tampa before the quarantine season began, and one of them died in Plant City. I visited Tampa in the fall of last year, purposely to study all the conditions pertaining to and surrounding that epidemic, and, thanks to my friends, Dr. John P. Wall, president of the Tampa board of health, and Dr. Joseph Y. Porter, president of the board of health of Key West, then in charge of the yellow fever hospital in Tampa, I had every facility given me for seeing existing cases and convalescents. It was yellow fever properly so called. Drs. Wall and Porter had had the courage to pronounce the disease yellow fever, and met with bitter and vile persecution. It is the usual thing that obtains under such conditions, but when there was a grand explosion of the disease and an epidemic was sweeping the city, the very men who were criticising them, fled the city and left them to fight the disease. The feeling against Dr. Wall, who is a profound student of yellow fever and who can speak from the knowledge of several epidemics of it, was most bitter; in fact, so bitter that I, an outsider (a British subject), thought it

well to write an article which was published in the *Times-Union* of Jacksonville, of last year, confirming his views as to its being yellow fever, and also warning the South against the very condition which exists to-day in Jacksonville.* The letter that I refer to was published in the *Times-Union* of November 30, 1887, and it closed as follows:

“Let the people of this fair State be true to their best interests and awake to instant action—in a word, prepare for what assuredly awaits them next summer.”

I noticed the condition of things there, and knowing that Tampa was below the frost line made the above forecast, which, alas! came true. I take no credit to myself in this connection, further than that I, in common with many men who have given this subject close thought and study, know that the disease not only is essentially a portable disease, but it is a quarantinable disease, one that can be shut out of towns and cities by the exercise of scientific quarantine as it is understood by sanitarians to-day. I mean such a quarantine as that perfected by Dr. Joseph Holt, president of the board of health of the State of Louisiana. I should like to have laymen turn this matter over in their own minds and think it out, and try to bring about a change. Any student of yellow fever will tell you that its introduction to-day is a disgrace to our modern civilization. Science teaches that it can be shut out. If so, why admit it, to sweep away hundreds, and, in a State like Florida, inflict damage that cannot be counted in money, when it may be the beginning of an epidemic in the South?

In the *New York Herald* of September 28, 1888, there was a telegram from Washington, dated the previous day and reading as follows:

“Senator Call introduced a joint resolution in the Senate to-day authorizing the President to call upon the Academy of Sciences to convene in the city of Washington at as early a day as practicable, and that the President shall select and request the attendance of such per-

* Written during the yellow fever epidemic of 1888.

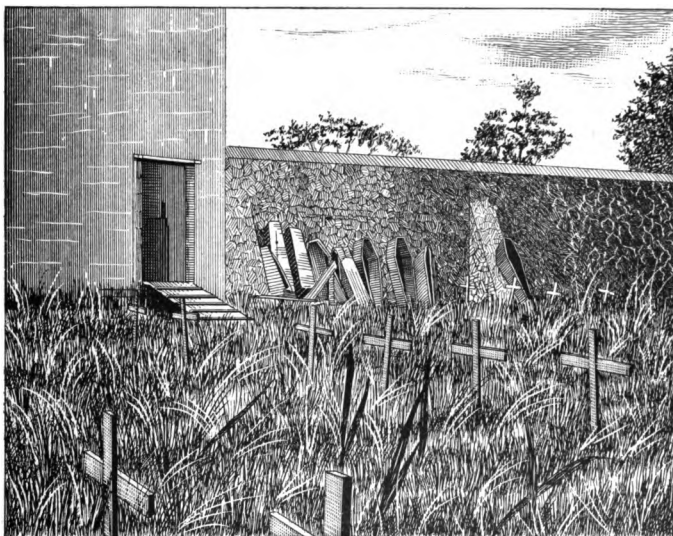
sons of the different schools of medicine, and of such other persons as may be distinguished for their attainments in science and natural research, to take evidence, examine into and report upon all methods that shall be submitted to them for the cure, prevention and suppression of yellow fever and other contagious and infectious diseases, and to invite the attendance of men eminent for learning and attainments in science and natural research from foreign countries."

To convene a congress to examine into health measures for the cure of yellow fever and the like is admirable. I may state here that I am a firm believer in the protection given by inoculation for yellow fever, and scientific work in that direction is growing up towards a plane where this will be accepted by the public at large. Inoculation will do for tropical countries. There is no reason—absolutely no good reason—why portions of this great country should be swept by disease. If that meeting of sanitarians in Washington will bring about some legislation that will lead to the suppression of the practices that obtain on the Isthmus (being those described at length), and almost identical practices in the island of Cuba, much more will have been attained, and the reproach of yellow fever will be of the past. Yellow fever is as much a disgrace to-day to a civilized community, as an epidemic of small-pox, because an epidemic of either one or the other is an indication of an absolute neglect, which in this age of civilization and scientific investigation is absolutely unpardonable.

CHAPTER XV.

THE COMMERCIAL VALUE OF THE ISTHMUS OF PANAMA—ITS COMMUNICATION BY STEAM WITH VARIOUS PORTS—PROD- UCTS OF COLOMBIA.

PERHAPS the best way of giving my readers an idea of the commercial importance of the Isthmus of Panama will be by referring to some of the steam companies connecting with it. Those at Colon, or the Atlantic side of the Isthmus, are the Royal Mail Steam Packet Company, the French Transatlantic Company, the Pacific Mail Steamship Company, the Hamburg-American Packet Company, the Atlas Steamship Company, the Harrison Line, and the West India and Pacific Steamship Company. Quite apart from these regular lines, a large number of tramp steamers make the Atlantic port upon the Isthmus, with a great many sailing vessels. The steam companies on the Pacific side of the Isthmus are the Pacific Steam Navigation Company, already referred to in connection with the Island of Moro, the Pacific Mail Steamship Company, and a new South American line that has just inaugurated a regular service between the Isthmus, Ecuador, Peru, and Valparaiso. This latter line I believe is an opposition line to the old Pacific Steam Navigation Company. It will be seen that some powerful steam carriers make both ports of the Isthmus terminal points. To return to the Atlantic side. The Royal Mail Steam Packet Company have an immense service, for their steam lines connect the Isthmus of Panama with ports in Colombia, Venezuela, the West Indian Islands, and Southampton. From the latter port they also have a line by way of the Cape de Verde Islands to Pernambuco, Bahia, Rio de Janeiro and Montevideo. They also have cargo boats plying between



FOR SALE ! SECOND-HAND COFFINS, PANAMA CEMETERY.

all the ports named through the West Indies and to Greytown in Nicaragua, as well as their intercolonial boats in the West Indies. Next in importance is the French Transatlantic Company, whose vessels sail from St. Nazaire, Havre and Marseilles, in France, and Santander, in Spain, touching at the French West Indian Islands, and making the Isthmus. That line likewise has cargo boats, and they do an enormous business. Then there is the Hamburg-American Packet Company, a well organized and substantial corporation, whose traffic in the West Indies has been built up from almost nothing into a huge service, keeping seventeen vessels busy. There can be no question among those who have had opportunities for observing—if they are willing to state the exact facts—that this latter corporation, owing to the great regularity of its service and the fact that it costs them less to maintain it, has made huge inroads into the carrying business of the other companies. And another fact in this connection which is important is, that they are always willing to meet shippers. Their vessels are substantially built; many of them, as in the French line, are English and Scotch. The West Indian and Pacific Steamship Line and the Harrison Line practically are one for all purposes of business, and sail alternately from Liverpool for ports in Venezuela, Colombia, and the Isthmus, thence by way of some Central American and Mexican ports to New Orleans, where they receive homeward cargoes of cotton. In my introductory chapter I referred to the Pacific Mail Steamship Company and its excellent service on both oceans. It is a direct line from New York City to the Isthmus. In times past it made Jamaica. The Atlas Steamship Company, an English corporation, dispatches vessels from New York through the West Indies to the coast of Colombia and Colon. This line likewise does a very large intercolonial business. On return trips they make some of the Central American ports, and Jamaica and Hayti, if I recollect rightly.

These are the important steam carriers discharging and receiving cargo and passengers at Colon. On the Pacific side of the Isthmus we have the Pacific Mail Steamship Company, with their through lines to San Francisco, via Central American and Mexican ports, and their Central American service. This company has a line to China and Japan from San Francisco. It does a very large business and practically has a monopoly of that Central American and Mexican trade. Prior to four years ago it controlled the carriage of coffee when the rate to the Old Country via the Isthmus, if I remember rightly, was six pounds per ton. Of course all that coffee had to cross the Isthmus of Panama, and the Panama Railroad Company, which carried it forty-seven miles, it is said, received exactly one-half of that sum for its share, leaving the other carriers three pounds per ton. As stated, prior to four years ago, the Pacific Mail had the monopoly. At that time the Kosmos Line of steamers were dispatched from Hamburg with outward cargoes for ports in Chili, Peru and Central America. There they contracted for return cargoes of coffee at four pounds, ten shillings per ton. The line has built up, or had built up when I was last in Central America, a most substantial business, and was carrying at least one-half of the whole coffee crop, and the prospect seemed to be that all going to Europe ultimately would fall into its hands. Shippers and merchants with whom I talked seemed to have substantial reasons for sending it that way. The coffee was loaded at the ports of Central America, carefully stowed, and went through the Straits of Magellan direct for ports in Europe, thus avoiding the repeated handlings at Panama. At first the opposition of the Kosmos Line was made little of, but it soon became a very formidable competitor. German companies can manage their lines for far less money than the English lines, and it is a well known fact that the English lines cost less than the American. As the coffee crop of Central America is estimated at upwards of one million of sacks, this shipping direct forms a considerable item and naturally affects the receipts of the Panama

Railroad Company. Coffee on reaching Colon was distributed to the various agents of consignees in that port, some going to France, some going to the London market, some to various ports on the Continent, some to New York, and a little to New Orleans. Within the last twenty-four months the Marquis de Campo put some of his fine Spanish boats in the trade between Panama and San Francisco, but the venture was not a success, and they have been withdrawn. From the Isthmus southwards towards Ecuador, Peru, Chili, and the Straits of Magellan, the Pacific Steam Navigation Company and the new company control all that trade. These are feeders on their return to the Panama Railroad. That railroad company has done, and still does, an enormous business. Hundreds of thousands of packages of all sorts of goods cross the Isthmus from the Atlantic to the Pacific and from the Pacific to the Atlantic, and, if the information given me at various times is accurate, the Panama Railroad reaps the cream of the business, in that it receives one-half of the whole price charged for carrying freight forty-seven miles.

Sailing vessels frequently make the Gulf of Panama and the port, but they bring cargoes chiefly for local consumption. Large quantities of whale oil and whalebone cross the Isthmus from the whaling fleet that I have already alluded to. By reference to the map that accompanies this book, the geographical and commercial importance of the Isthmus will be apparent.

Colombia exports a considerable quantity of mahogany, fustic, cedar, dye-woods, sarsaparilla and other medicinal plants. The produce of its mines is gold, silver, a little platinum, copper, iron, lead, and a few precious stones, but some of the latter of considerable value. In an earlier chapter I have referred to its excellent tobacco. It also exports cocoa, a little indigo, a large amount of vegetable ivory, and its export trade of bananas from the Isthmus is very large indeed. The principal items of export are cinchona, tobacco, balsam of tolu, hides, rubber, and the precious metals. This list of course does not include the exports of Mexico,

and Central and South America, on the Pacific, which cross the Isthmus at Panama.

Mr. August Strunz, Consul for Austria in Barranquilla, annually issues a sheet giving the exports from that section of Colombia on the Atlantic. From this I find that the total annual value of produce and treasure by way of the Magdalena River at Barranquilla is \$7,744,185, and the exports to the various ports in 1887 were as follows: London received 23 packages of balsam, 1189 packages of cinchona bark, 11 packages of bird skins, 5 packages of cigars, 206 packages of cocoa, 14,404 packages of coffee, 1354 packages of loose hides, 1029 packages of ivory nuts, 544 packages of mineral, 1583 packages of plants, 1286 packages of rubber, 8 packages of sarsaparilla, 35 packages of sundries, 991 packages of tobacco, 2400 fustic logs; total number of packages, 25,068. Total weight in kilograms, 1,420,030. Total value of produce, \$489,795. Total value of treasure, \$2,140,263. Total value of produce and treasure to the city of London, \$2,630,058.

Liverpool received 3 packages of balsam, 212 packages of cinchona, 1 package of bird skins, 245 packages of coffee, 91 bales of cotton, 1329 packages of cotton seed, 20 packages of dividivi, 174 bales of goat skins, 142 loose hides, 2045 packages of ivory nuts, 37 packages of rubber, 2 packages of sundries, 28,741 fustic logs. Total number of packages, 33,042. Total weight in kilograms, 1,160,940. Total value of produce, \$51,810.

Swansea, in Wales, received 4321 packages of mineral. Total number of packages, 4321. Total weight in kilograms, 259,260. Total value \$129,630.

In France, Havre received 6 packages of balsam, 1 package of bird skins, 3 packages of cigars, 12 packages of cocoa, 5535 packages of coffee, 247 bales of cotton, 2104 of cotton seed, 314 bales of goat skins, 2376 loose hides, 72 packages of minerals, 3 packages of plants, 171 packages of rubber, 24 packages of sundries, 11,053 fustic logs. Total number of packages, 21,921. Total weight in kilograms, 927,260. Total value of produce, \$157,216.

Paris received 52 packages of balsam, 1 package of

cinchona, 11 packages of bird skins, 23 packages of cocoa, 1283 packages of coffee, 8052 loose hides, 65 packages of ivory nuts, 282 packages of mineral, 8 packages of plants, 381 packages of rubber, 45 packages of sundries. Total number of packages, 10,203. Total weight in kilograms, 225,280. Total value of produce, \$94,165. Total value of treasure, \$658,505. Total value of produce and treasure, \$752,670.

Bordeaux received 76 packages of coffee, 242 packages of ivory nuts, 445 fustic logs. Total number of packages, 763. Total weight in kilograms, 34,850. Total value of produce, \$2,952.

Bremen, in Germany, received 34 packages of balsam, 51 packages of cinchona bark, 2 packages of cigars, 777 packages of coffee, 1591 loose hides, 8687 packages of ivory nuts, 3 packages of rubber, 21 packages of sundries, 23,560 packages of tobacco, 8868 logs of fustic. Total number of packages, 43,594. Total weight in kilograms, 2,592,620. Total value of produce, \$547,739.

Hamburg received 28 packages of balsam, 300 packages of cinchona bark, 5 packages of cigars, 105 packages of cocoa, 7260 packages of coffee, 1 package of cotton seed, 227 bales of goat skins, 2332 loose hides, 5088 packages of ivory nuts, 79 packages of mineral, 54 packages of rubber, 574 packages of sundries, 1087 packages of tobacco, and 19,076 fustic logs. Total number of packages, 36,216. Total weight in kilograms, 1,547,950. Total value of produce, \$247,634. Total value of treasure, \$3,971. Total value of produce and treasure, \$251,605.

New York received 283 packages of balsam, 3618 packages of cinchona bark, 38 packages of cocoa, 52,570 packages of coffee, 620 bales of goat skins, 186,106 loose hides, 368 packages of ivory nuts, 1033 packages of mineral, 286 packages of plants, 1334 packages of rubber, 12 packages of sarsaparilla, 93 packages of sundries, 7269 logs of fustic. Total number of packages, 253,630. Total weight in kilograms, 5,748,610. Total value of produce, \$2,272,844. Total value of treasure, \$73,632. Total value of produce and treasure, \$2,346,476.

The West Indies received 3 packages of cigars, 107 packages of cocoa, 437 packages of coffee, 89 packages of hats, 259 packages of sundries, 890 packages of tobacco. Total number of packages, 1785. Total weight in kilograms, 115,970. Total value of produce, \$85,655. Total value of treasure, \$14,173. Total value of produce and treasure, \$99,828.

Exports to Carthagena, Colombia, were 146 packages of plants. Total number of packages, 146. Total weight in kilograms, 7300. Total value of produce, \$4,380. Total value of treasure, \$2,192. Total value of produce and treasure, \$6572.

Colon, Colombia, received 21 packages of balsam, 24 packages of cigars, 157 packages of coffee, 1180 packages of sundries, 783 packages of tobacco, 8038 railroad cross ties. Total number of packages, 10,203. Total weight in kilograms, 941,290. Total value of produce, \$51,536. Total value of treasure, \$712,638. Total value of produce and treasure, \$764,174.

Spain received 5 packages of bark, 1 package of bird skins, 2 packages of cocoa, 9 packages of coffee, 273 loose hides, 2 packages of ivory nuts. Total number of packages, 292. Total weight in kilograms, 3880. Total value of produce, \$2,355. Total value of treasure, \$1,100. Total value of produce and treasure, \$3,455.

Recapitulating these and adding the totals, there were: number of packages of balsam, 450; of cinchona bark, 5,376; of bird skins, 25; of cigars, 42; of cocoa, 493; of coffee, 82,753; number of bales of cotton, 338; number of packages of cotton seed, 3434; of dividivi, 20; 1335 bales of goat skins; 89 packages of hats; 202,226 loose hides; 17,526 packages of ivory nuts; 6331 packages of mineral; 2026 of plants; 3266 of rubber; 20 of sarsaparilla; 2233 of sundries; 27,311 of tobacco; 77,852 logs of fustic; and 8038 railroad cross ties. Total number of packages, 441,184.

Weight in kilograms: of balsam, 27,000; of bark, 322,560; of bird skins, 1250; of cigars, 2100; of cocoa, 29,580; of coffee, 4,965,180; of cotton, 67,680; of cotton seed, 240,380; of dividivi, 1000; of goat skins, 80,100; of hats,

5340; of hides, 2,022,260; of ivory nuts, 1,226,820; of mineral, 379,860; of plants, 101,300; of rubber, 326,600; of sarsaparilla, 1200; of sundries, 133,980; of tobacco, 1,911,770; of fustic logs, 2,335,560; of railroad cross ties, 803,300. Gross total weight, 14,985,240.

Total of values: balsam, \$27,000; bark, \$268,800; bird skins, \$12,500; cigars, \$6,300; cocoa, \$12,325; coffee, \$1,655,060; cotton, \$16,900; cotton seed, \$3,434; dividivi, \$20; goat skins, \$26,700; hats, \$53,400; hides, \$1,011,130; ivory nuts, \$87,630; mineral, \$189,930; plants, \$60,780; rubber, \$81,650; sarsaparilla, \$600; sundries, \$22,330; tobacco, \$546,220; fustic logs, \$38,926; railroad cross ties, \$16,076. Gross total value of produce, \$4,137,711. Gross total value of treasure, \$3,606,474. Gross total value of produce and treasure, \$7,744,185.

The Colombian dollar is not equal to the American dollar, and its value depends upon the rate of exchange. The latter sometimes is twenty-five to thirty, and sometimes even thirty-five.

Taking up the exports by steamers from 1873 to 1887, they are as follows:

For the year 1873 the number of packages was 266,289; number of tons of wood, 731; weight of packages and wood in kilograms, 14,198,560; the value of produce, \$4,935,340; value of treasure, \$2,781,397. Total value of produce and treasure for 1873, \$7,716,737.

The exports by steamers for 1874 were as follows: number of packages, 296,399; number of tons of wood, 567; weight of packages and wood, in kilograms, 16,255,136; value of produce, \$5,323,699; value of treasure, \$3,441,087. Total value of produce and treasure for the year 1874, \$8,764,786.

For the year 1875 the exports by steamers were as follows: Number of packages, 313,302; number of tons of wood, 1,369; weight of packages and wood in kilograms, 16,738,480; value of produce, \$5,144,910; value of treasure, \$3,937,130. Total value of produce and treasure, for the year 1875, \$9,082,040.

For the year 1876 the exports by steamers were as follows: Number of packages, 215,937; number of tons of

wood, 1,225; weight of packages and wood in kilograms, 11,169,790; value of produce, \$3,091,614; value of treasure, \$2,893,626. Total value of produce and treasure, for the year 1876, \$6,885,240.

The exports by steamers for the year 1877 were as follows; Number of packages, 230,509; number of tons of wood, 572; weight of packages and wood in kilograms, 11,229,390; value of produce, \$3,672,100; value of treasure, \$3,128,045. Total value of produce and treasure for the year 1877, \$6,800,145.

For the year 1878 the exports by steamers were as follows: Number of packages, 328,928; number of tons of wood, 845; weight of packages and wood in kilograms, 14,398,950; value of produce, \$5,084,405; value of treasure, \$3,839,766. Total value of produce and treasure for the year 1878, \$8,924,171.

In the year 1879 the exports by steamers were: Number of packages, 338,764; number of tons of wood, 860; weight of packages and wood in kilograms, 15,258,380; value of produce, \$6,077,317; value of treasure \$3,272,168. Total value of produce and treasure for the year 1879, \$9,349,485.

For the year 1880 the exports by steamers were: Number of packages, 390,360; number of tons of wood, 800; weight of packages and wood in kilograms, 14,922,550; value of produce, \$6,309,287; value of treasure, \$2,842,31. Total value of produce and treasure, \$9,152,218.

The exports by steamers for the year 1881 were as follows: Number of packages, 423,342; number of tons of wood, 1,085; weight of packages and wood in kilograms, 15,862,550; value of produce, \$9,055,669; value of treasure, \$3,343,940. Total value of produce and treasure, for the year 1881, \$12,399,609.

The exports by steamers for the year 1882 were: Number of packages, 412,520; number of tons of wood, 1,284; weight of packages and wood in kilograms, 15,624,600; value of produce, \$8,257,402; value of treasure \$3,137,653. Total value of produce and treasure for the year 1882, \$11,395,055.

The exports by steamers for the year 1883 were: Num-

ber of packages, 550,652; number of tons of wood, 5,838; weight of packages and wood in kilograms, 20,199,750; value of produce, \$6,999,955; value of treasure, \$3,951,126. Total value of produce and treasure for the year 1883, \$10 951,081.

For the year 1884 the exports by steamers were as follows: Number of packages, 421,886; number of tons of wood, 887; weight of packages and wood in kilograms, 13,856,220; value of produce, \$6,194,092; value of treasure, \$4,352,276. Total value of produce and treasure for the year 1884, \$10,546,368.

For the year 1885 the exports by steamers were: Number of packages, 151,071; number of tons of wood, 59; weight of packages and wood in kilograms, 5,029,580; value of produce, \$1,593,235; value of treasure, \$2,214,616. Total value of produce and treasure for the year 1885, \$3,807,851.

For the year 1886 the exports by steamers were as follows: Number of packages, 407,759; number of tons of wood, 664; weight of packages and wood in kilograms, 13,438,460; value of produce, \$4,526,354; value of treasure, \$3,264,594. Total value of produce and treasure for the year 1886, \$7,790,948.

In 1887 the exports by steamers were: Number of packages, 441,184; number of tons of wood, 3,140; weight of packages and wood in kilograms, 14,985,240; value of produce, \$4,137,711; value of treasure, \$3,606,474. Total value of produce and treasure for the year 1887, \$7,744,185.

In 1886, Colombia's total imports amounted to £2,500,000, and her total exports to £2,875,000. Her imports from the United Kingdom were valued at £982,172, and her exports thereto at £295,086.*

* "Whitaker's Almanac," London, 1888.

CHAPTER XVI.

THE BUILDING OF THE PANAMA RAILWAY—DIFFICULTIES MET IN CONSTRUCTION—LOSS OF LIFE—ITS COMPLETION A CREDIT TO AMERICAN ENGINEERING.

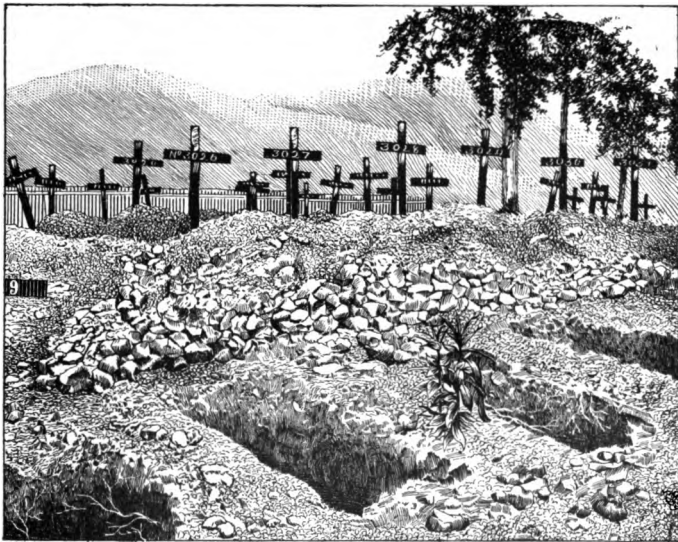
In the chapter on Old Panama frequent reference will be found to the River Chagre, as it was termed then, or the River Chagres, as it is called to-day. The Isthmus of Panama came into prominence during the gold fever of 1849, when thousands crossed to the Pacific by way of the Chagres River as far as Cruces, and thence by mule-back or otherwise to modern Panama. Cruces of to-day is the Cruz of the past.

The traffic across the Isthmus was so extensive owing to the gold fever of '49 in California, that the construction of a railway was deemed imperatively necessary, and the Panama Railroad Company broke ground in the latter end of the year 1850. One reads* of the great difficulties that had been overcome by the pioneers.†

To thoroughly understand a few of these as met by the early engineers of that road, I have simply to direct my reader's attention to the swamps and jungle described at length in an earlier chapter. The first engineering staff landed there in the fall of 1849. Their quarters were on board a sailing ship. They worked by day, waist deep in mud and slime, making surveys and cutting a trail, and slept at night on their floating home. Nothing but the indomitable will and push for which Americans are justly praised, could have overcome the terrible difficulties that met them at every step. The country was a howling wilderness, pestilential and death-deal-

* "The Isthmus of Panama," Otis, New York.

† "Panama in 1855," New York.



PANAMA CEMETERY, READY-MADE GRAVES.

ing ; the forests teemed with poisonous snakes and other equally unpleasant inhabitants ; night was made hideous by the large, broad-chested, active mosquitoes of that part of the coast, who bite through clothing most successfully ; the country produced absolutely nothing, and every mouthful of food had to come from New York. Despite these obstacles, that brave little band worked ahead, and kept on with their surveys. At the very outset they encountered the difficulty of finding a suitable location for the line traversing the quicksands and swamps between Colon of to-day and Gatun. It is reported that in some of the swamps the engineers under the late Col. George M. Totten, and Mr. Trautwine, failed to find bottom at 180 feet. An embankment was created for the road by throwing in hundreds of cords of wood, earth, rock, and more wood. This causeway, as it may be called, cost a fabulous sum of money ; but at last it was completed and they floated their tracks, so to speak, over the swamps. In early days such sections were graphically called "the soft spots" of the road. Despite their push and means, it took nearly two years to complete some twenty-three miles of the road, or the section from Colon to Barbacoas. Passengers and luggage went from Colon to Barbacoas, and there took *bungoes*, or canoes, and went up the Chagres River to Gorgona, or Cruces, and then by road to Panama. At the close of the year 1854 the road had been completed as far as "the divide," or Culebra. This is the highest point on the Panama Railroad, and is two hundred and thirty-eight feet, six inches, above tide level. It goes without saying that it was the lowest pass found within the mountains. On the 27th day of January, 1855, the first locomotive crossed from ocean to ocean, and Col. George M. Totten went over on her. Thus fully five years had been consumed before the road was built. Afterwards many improvements were made: embankments were strengthened, new bridges were put in, and soft places were fortified.

The cost of the Panama Railroad largely exceeded the

original expectations of the company. On the 13th of March, 1855, the total was given at \$7,000,000.*

The engineer-in-chief, Colonel Totten, placed it at \$6,000,000, but he did not include many of the additional expenses, such as substantial wooden bridges for trestles, the iron bridge at Barbacoas, costing \$500,000, and other items.

A French writer, M. Emile Chevalier, gave the estimated cost of the railroad on the 1st of June, 1850, at \$4,900,000 ; its prospective gross receipts at \$860,000 ; its annual expenses at \$344,000 ; and net revenue at \$516,000.†

It probably will be safe to say that the road cost \$8,000,000, or fully three millions over the estimate. The long rainy season played great havoc with the work, and the difficulties which the engineers had to contend with were simply innumerable. No one can appreciate them unless he has lived in such countries and really knows what the wet season means. I shall cite but a single instance in connection with the building of the Panama Railroad in the high levels, to show what railroad cuts within the tropics mean. After they had got on the other side of the "divide" towards Panama and opposite Paraiso, a forty-foot cut was made. Owing to the peculiar soil there, when the first rain came, the surface became saturated and the greasy soil moved into the cut burying the railroad to a depth of some twenty feet. This, remember, on a simple cut of forty feet. One such lesson was ample for the experienced men directing the construction and a new bed was promptly laid over the old one. I have already said that the Isthmus furnished nothing in the shape of food ; everything had to be brought from the United States or abroad. The laborers came from Ireland, and from Jamaica ; there were a lot of Coolies and no end of Chinamen, Colombians and Indians. The great bulk of the material likewise had to come from abroad. Tomes in his

* *New York Tribune.*

† "*Revue des Deux Mondes*," Paris.

work * gives a graphic and truthful sketch of the swamps and the jungle, and feelingly treats of the climate, regarding which he says, "when to this was added a climate which disposes, from its prostrating heat, to indolence, and an atmosphere the malignant breathing of which is poison, the result which has been accomplished seems almost superhuman."

He also summarizes his view regarding climate as follows :

"The unhealthiness of the climate has been one of the most serious obstacles against which the enterprise has struggled. I need not dwell upon the causes which produce those diseases which are endemic on the Isthmus. The alternation of the wet and dry seasons, a perpetual summer heat, and the decomposition of the profuse tropical vegetation, must of course generate an intense miasmatic poison, and I was not surprised when the oldest and most experienced of the physicians employed on the railway declared to me that no one, of whatever race or country, who becomes a resident of the Isthmus, escapes disease.

"I am indebted to the same gentlemen for some interesting facts. From him I learned that those who were exposed to the miasmatic poison of the country were generally taken ill in four or five weeks, although sometimes, but rarely, not for four or five months after exposure. That the first attack was generally severe; and took the form of yellow, bilious remittent, or malignant intermittent fever. That although none were exempt, the misamatic poison affected the various races with different degrees of rapidity. That the African resisted the longest, next the Coolie, then the European, and last in order the Chinese, who gave in at once.

* * * * *

"The system never habituates itself to the misamatic poison, and complete recovery from fever, during a residence on the Isthmus, is impossible. The sufferer may

* "Panama in 1885."

arise from his bed of sickness, but totters up and stalks about a mere ghost of his former self. It is thus that I never met with a wholesome looking person among all those engaged upon the railroad. There was not one whose constitution had not been sapped by disease, and all, without exception, are in the almost daily habit of taking medicine to drive away the ever-recurring fever and ague. The Railroad Company are so far conscious of the debility engendered by a residence on the Isthmus, that they refuse to employ those laborers who, having gone to a healthier climate to recruit, return to seek employment. It is found that such are unprofitable servants, and yield at once to the enervating and sickening climate. The enterprise requires all the vigor of unweakened sinews, and of pure, wholesome blood.

* * * * *

"A terrible fatality attended the efforts of the Railroad Company to avail themselves of the assistance of the Chinese laborers. A ship arrived, and landed on the Isthmus some eight hundred, after a fair voyage from Hong Kong, where these poor devils of the flowery kingdom had unwittingly sold themselves to the service of the railroad, perfectly ignorant of the country whither they were going, and of the trials which awaited them. The voyage was tolerably prosperous, and the Chinese bore its fatigues and sufferings with great patience, cheered by the prospects of reaching the foreign land, whither they had been tempted by the glowing descriptions of those traffickers in human life, who had so liberally promised them wealth and happiness. Sixteen died on the passage, and were thrown into the sea. No sooner had the eight hundred survivors landed, than thirty-two of the number were struck down by disease; and in less than a week afterward, eighty more were laid by their side. The interpreters who accompanied them, attributed this rapid prostration to the want of their habitual opium. This drug was then distributed among them, and with the good effect of so far stimulating their energies, that two-thirds of the sick arose again from their beds, and began to labor. A Maine opium law,

however, was soon promulgated on the score of the immorality of administering to so pernicious a habit, and without regard, it is hoped, to the expense; which, however, was no inconsiderable item, since the daily quota of each Chinese amounted to fifteen grains, at the cost of at least fifteen cents. Whether it was owing to the deprivation of their habitual stimulants, or the malignant effects of the climate, or home-sickness, or disappointment, in a few weeks there was hardly one out of the eight hundred Chinese who was not prostrate and unfit to labor. The poor sufferers let the pick and the shovel fall from their hands, and yielded themselves up to the agony of despair. They now gladly welcomed death, and impatiently awaited their turn in the ranks which were falling before the pestilence. The havoc of disease went on, and would have done its work in time; but as it was sometimes merciful, and spared a life, and was deliberate though deadly, the despairing Chinese could wait no longer; he hastily seized the hand of death, and voluntarily sought destruction in its grasp. Hundreds destroyed themselves, and showed, in their various modes of suicide, the characteristic Chinese ingenuity. Some deliberately lighted their pipes, and sat themselves down upon the shore of the sea, and awaited the rising of the tide—grimly resolved to die—and sat and sat, silent and unmoved as a storm-beaten rock, as wave rose above wave, until they sank into the depths of eternity. Some bargained with their companions for death—giving their all to the friendly hand which, with a kindly touch of the trigger, would scatter their brains, and hasten their doom. Some hung themselves to the tall trees by the hair, and some twisted their queues about their necks, with a deliberate coil after coil, until their faces blackened, their eye-balls started out, their tongues protruded, and death relieved their agony. Some cut ugly crutch-shaped sticks, sharpened the ends to a point, and thrust their necks upon them until they were pierced through and through, and thus mangled, yielded up life in a torrent of blood. Some took great stones into their hands, and leaped into the depths of the nearest river, and clung,

with resolute hold, to the weight which sunk them, gurgling in the agonies of drowning, to the bottom, until death loosened their grasp, and floated them to the surface, lifeless bodies. Some starved themselves to death—refusing either to eat or drink. Some impaled themselves upon their instruments of labor—and thus, in a few weeks after their arrival, there were scarce two hundred Chinese left of the whole number. This miserable remnant of poor heart-sick exiles, prostrate from the effects of the climate, and bent on death, being useless for labor were sent to Jamaica, where they have ever since lingered out a miserable beggar's life.

“The Railroad Company was hardly more fortunate with another importation of live freight. A cargo of Irish laborers from Cork reached Aspinwall, and so rapidly did they yield to the malignant effects of the climate, that not a good day's labor was obtained from a single one; and so great was the mortality, that it was found necessary to ship the survivors to New York, where most died from the fever of the Isthmus which was fermenting in their blood. The laborers now employed, to the number of 3000, on the road are of the mixed native races, chiefly from the province of Carthage, Negroes from Jamaica, and Coolies from the East Indies.”

The Panama Railroad will ever remain a permanent monument to American skill and enterprise and the honor of connecting the two oceans is theirs. I have already given some idea of the estimated revenue, looking at it from Mr. Chevalier's standpoint. The profits paid by that road in times past have been very large, being all the way from twelve to twenty-two per cent. Mr. Chevalier's modest estimate of its cost was \$4,900,000 and its gross receipts \$860,000. As has been shown, the road cost some eight millions, but its gross receipts for a series of years, if I remember rightly, have been about two and a half millions to three millions of dollars per annum, which is the best possible proof of its value. The Panama Railroad Company, while still operating under an American charter is said to belong to the

Panama Canal Company. Its sale by the former to the latter has developed a question with the United States of Colombia that may be awkward for either corporation. The government of Colombia contends that according to its concession to the road, in the event of a sale, twenty-five per cent reverts to the National treasury. The Canal Company, I believe, takes the ground that the road has not changed hands, in that it is still operated under an American charter and that some of the shareholders are still Americans. Whether these arguments will be deemed valid by the sons of Colombia, learned in the law, remains to be seen. While it is quite true that the road is still operated under that American charter, it is equally true that over six-sevenths of the shares were sold to M. de Lesseps' company. It has been stated time and time again, and, as far as I know the statement never has been questioned, that M. de Lesseps has hypothecated the stock for advances made by prominent banking firms in New York City. It is further alleged that the accrued interest on the money so loaned now represents a very large sum, and, in the future, owing to the complications which surround the great French Undertaker, the road must revert to a strictly American ownership. If such becomes the case, it will still leave the question of twenty-five per cent on the original sale open. And, apropos of the Panama Railroad, I will here refer to a statement that I obtained from an official source. If it is accurate, it is simply another illustration of the profound wisdom that actuated the minds of the men who controlled the stock of the Panama Railroad at the time of its sale to M. de Lesseps' company. It would seem that in the deed of sale a proviso was placed that if the Panama Canal Company failed to complete their ditch, the road would revert to the American Company; and if, on the other hand, the canal became a fact, the sale would hold good. The acute reasoning on this subject is simply delightful. If the canal became a fact the road would be valueless, but if it was a failure the road being still valuable, would revert to the original owners. In the fall of 1879

M. de Lesseps could have bought the road for \$14,000,000, or 70,000 shares at \$200. We must bear in mind that the road cost some eight million of dollars. Previous to De Lesseps' breaking ground, its shares were at par. Its plant on the Isthmus was in a wretched condition, there being but three locomotives that really were serviceable. Following the advent of the Canal engineers in February, 1880, a carefully planned system of obstructing the delivery of the goods of the Panama Canal Company over the line was put in force. The Railway Company controlled the situation, but M. de Lesseps was not in a position at that time to buy, and the obstruction went on to the great detriment of the Canal Company. The shares that had been offered him by the late Mr. Trenor W. Park kept on advancing and advancing, and when he got ready to buy they had increased in nominal value to \$250 each, being an advance on the offer of less than twelve months previously of three millions and a half of dollars, and it was for this sum, less a small amount of stock held by a handful of American shareholders, to retain the charter—that the sale was effected.

The railroad on the Isthmus is a *sine qua non* for the building of a canal. M. de Lesseps' concession from the government of Colombia for the construction of a tide level canal expires in 1892, but long ere that time his company will have gone into insolvency and the work done under that concession will revert to the government of Colombia.* Since the Canal Company became the proprietors of the railroad it has been thoroughly equipped with a first-class plant, such as powerful engines, new and comfortable cars, and many things that were absolutely necessary. Quite apart from these, miles of new sidings have been put in, and a good harbor has been created, at Christophe, Colon; all of which doubtless will be to the great advantage and profit of the future owners of the road. The government of the United States of Colombia is thoroughly in earnest

* This was written before the failure in 1888.

regarding its claim for a percentage on that sale. Its claim is a valid one; the road is on Colombian territory, and there can be no question but that eventually the government will get their money. Under the original concession to the Panama Railroad Company the road reverts to the government after a given time. That time was extended for a monetary consideration, and probably it may be extended again. Certain it is the government is master of the situation, and they clearly have right on their side. On the Panama side the railway company have a lot of valuable plant, in the shape of machine shops, paint shops and the like. Within the last few years new and excellent stations have been built, both in Panama and Colon, and the improvements on the road are marked, and consequently valuable.

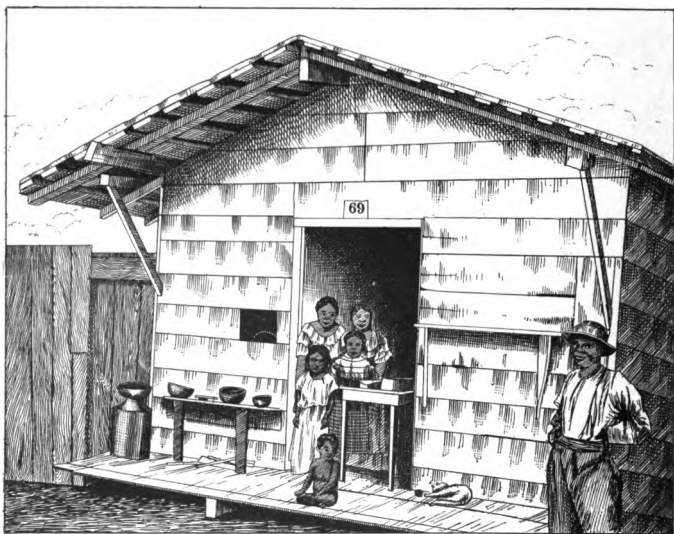
In concluding this chapter on the Panama Railway, it may be well to cite a fact not generally known. Great Britain could have controlled that most important highway, but with an apathy born of lamentable ignorance, the opportunity was lost, and the control became essentially American, under the treaty of 1846, in which the United States of America guaranteed the sovereignty of the State of Panama. John Bull woke up to find that a magnificent opportunity had slipped through his fingers, and that his keen, quick-witted American cousins had seized upon it. The treaty of 1846 at a later period was amplified and confirmed. This guaranteeing the sovereignty of a foreign State I believe is somewhat opposed to the so-called Monroe doctrine of the United States of America, but in the instance of the State of Panama, it is a fact and the treaty is still in force. I say the treaty "is in force;" but whether the reduction of the sovereign State of Panama to a federal district by National legislation in Bogota alters the status of that treaty, I am unable to say. Panama was deprived of her sovereignty in the spring of 1885. This had been foreseen and commented upon in the American papers—particularly by the *New York Sun*—in the fall of 1884. Many then resident on the Isthmus thought that it was but a

preliminary to handing over that strip of Colombia to others at some later period—*i. e.* to *la belle France*.

Let the future be what it may, the Panama Railroad controls that Isthmus, and will control it as long as there is no canal there; and the probabilities of M. de Lesseps completing even a locked canal there are about as remote as his construction of a tramway to the moon.

As long as Eads' company do not build their ship railway, or the Nicaragua Canal Company fail to dig their ditch across Nicaragua, the Panama Railroad will have an immense value; but the very day that either of the enterprises alluded to become accomplished facts, the Panama Railroad will be practically valueless, and for the following reasons: The steam companies which have been paying one-half of their whole freights to the Panama Railroad Company for carrying goods forty-seven miles, will not turn one-half of their traffic receipts into the treasury of that corporation. Their vessels will steam through the Nicaragua Canal and save the money now paid to the Panama Railroad Company. The railroad will then be abandoned.

We have already seen how the Americans built the railway in early days in the face of a bad climate, disease, death, and difficulties that seemed insurmountable; now that the sons of enterprising America have taken hold of the Nicaragua Canal scheme, there can be no question in the minds of any of those who are familiar with the subject of trans-Isthmian transit that the Nicaragua Canal will become a fact long ere the Panama Canal Company is in shape to admit even of the passage of a small steamer from ocean to ocean, either as a lock or tide-level canal.



SMALL BOY, CLAD IN NATIVE MODESTY. SUBURBS OF PANAMA.

CHAPTER XVII.

CHINATOWN, PANAMA — SHOPS, AND JOSS HOUSE—MEN AND WOMEN—CONFUCIAN PHILOSOPHY, QUO AD CHRISTIANITY IN TIMES OF DOUBT—THE CHINAMEN A HARD-WORKING, PEACEFUL LOT—BLENDING OF RACES.

ON the Isthmus of Panama there is a large colony of Chinamen. Chinatown, in the city of Panama, represents an important section of it, and before beginning a description of it, I shall state that, long before knowing the Chinese, I had heard a great deal about their abnormalities so called. Upon getting to San Francisco I paid Chinatown a visit, saw the Joss house and their shops. I had heard and read so much about the wickedness of these people that I was anxious to know in what shape they appeared. Judging from the newspaper reports of them they suffer from all sorts of fearful diseases of which we have no experience. While in San Francisco I made inquiries and had a good look at them. Save that their stature is not quite that of the Anglo-Saxon race, they seem to have much in common with the latter, in that they have two arms, two legs, and the usual appendages of a well constructed body. While in British Columbia, and while the Canadian Pacific road was building, I learned from Mr. Onderdonk, an American contractor, that he was thoroughly satisfied with his Chinamen. They worked for about two-thirds the pay of an ordinary white man, and he more than got an equivalent for his money. As a class they were obedient, easily directed, and gave but little trouble. While in Washington Territory at one of the huge saw mills on Puget Sound I also asked about the Chinese element, and found that employers of labor there had perfect confidence in them—and for the best of reasons. John

Chinaman was always at his work. If by any chance he was detained or ill he sent another Chinaman to take his place, and there was no break. They had nothing to do with strikes and were a most satisfactory element to the manufacturer. The ordinary white laborer, usually a foreigner, was bumptious, unruly, impertinent and generally troublesome, and but for the fact that the mill owners had the Chinamen with them they could not have controlled the situation and their difficulties would have been great. Upon getting into Southern California, also on a holiday trip, I inquired about the Chinese there. I found that they were the same peaceful, hard-working, law abiding citizens as in British Columbia. In British Columbia many of them have purchased property, built homes and have settled down. A firm defender of the Chinese in Southern California was the late Col. W. W. Hollister. He recognized their value and worth, and being a man who had the courage of his convictions, he advocated their employment. As far as I could gather from my inquiries at that time, the Chinaman has no vices to which we whites are strangers. Quite the contrary.

During my five years on the Isthmus as a practitioner of medicine I saw John Chinaman "at home." In fact I had the largest Chinese *clientèle* in Panama, and I had every opportunity of knowing them—seeing them ill and well, and under all sorts of circumstances—and where I could form an estimate of them as they live. I can summarize five years' experience by saying that I never saw but one drunken Chinaman, and that I never met with but one case of constitutional disease among them, while I treated no end of it among the whites. The Chinamen at Panama are a hard-working, peaceful, law abiding lot of citizens. Many of them arrived there from China having no knowledge of Spanish, but in an incredibly short time they picked up a smattering of the language, quite enough for the purpose of trade, and then they blossom out as shopkeepers. The wholesale merchants of Panama do not hesitate to give these comparative strangers credit. They pay their debts

promptly, and, speaking from my knowledge of one of the largest wholesale houses there, whose trade with the Chinese merchants in Panama on the line of the Panama Canal and in Colon has been enormous, they never have lost a dollar by them. They are models of patience, they are perpetual workers, and they are a respectful class. It is quite true that some of them smoke opium, but that is the equivalent of our stimulation, save that they do not make the exhibitions of themselves that we do when under the influence of spirits. A few of the Chinamen of Panama have their wives with them. Many of them form quasi-unions with the Indian women of the country, and the offspring of such unions to me were most interesting. Such children have straight black hair, black eyes, and olive skins, while the flattened nose of the Chinaman gave place to the straighter or Grecian nose of the Indian. They are exceedingly bright little people, and I remember many of them among my patients. I can recall no case of cruelty among the men towards their wives.

They had a Joss house in Chinatown, and during the high festivals, flags with fierce looking dragons hung out in front, and the music which they evolved from their extraordinary looking banjos, tom-toms and the like was something wonderful. It is said that by the burning of fire crackers and the playing of their Chinese music they can expel spirits, and I am quite willing to believe it, for no respectable spirit would stay where there is any Chinese music,

As philosophers and logicians they probably are unequalled. A few of them professed the Roman Catholic religion, but the majority of them had their Chinese gods in their quarters, before which they burned their little punk-sticks, the equivalent of incense. Immediately following the great earthquake of September, 1882, and while the smaller ones were going on, I was called to see a sick Chinaman over a Chinese eating shop. I got up into a room where several Chinamen slept on their hard, uncomfortable beds. After seeing my patient I noticed a combination of heathenism and civilization

that amused me considerably. There evidently were a few Chinamen in that building who professedly were Roman Catholics, while the others had remained true to their old loves. But be that as it may, before an image of the Virgin Mary they had a number of blessed tapers, while on the same shelf was a large Chinese god surrounded by inscriptions and the like, before whom Chinese incense was burning. It struck me as being an extraordinary combination of religions, and I couldn't help thinking that while John had adopted the new belief, he seemed to have some doubts about it, and, to be safe, was trying to propitiate the Virgin Mary without offending Confucius.

Apropos of the smoking of opium, it is largely the bane of the lower classes of Chinese. Generally, "once an opium smoker, always an opium smoker," and its effects are most disastrous. To those interested in such matters I cannot do better than recommend to them the reading of De Quincey's admirable book.* There is a fact in connection with this smoking of opium that is no credit to the English nation. Any one familiar with the history of the opium traffic, if absolutely truthful, will admit that opium was forced on China by England, and that a huge revenue does, or did, accrue to the Old Country from dealing in that vile drug. Strange as it may seem, the government of China has protested against this most iniquitous trade again and again. While we are condemning Chinamen for their smoking of opium, let us cast our eyes toward England and place the blame where it should rest.

The Chinese themselves have a curious version of the story of the introduction of opium into the country. I will try to tell it as one of them told it to me. "W'en Englishman come China he blingee opium: no man hab much food den an' Englishman he say, I takee food an' Chineeman he eatee opium: opium allee same fills dem. Den Englishman, he say, Chineeman he go sleep; bimebye he die. But Chineeman he heap smart. He makee

* "Confessions of an Opium Eater," De Quincey. London,

dat opium fo' smoke. Den he no hungly an' he no sleep. So Inglishman, he one big fool."

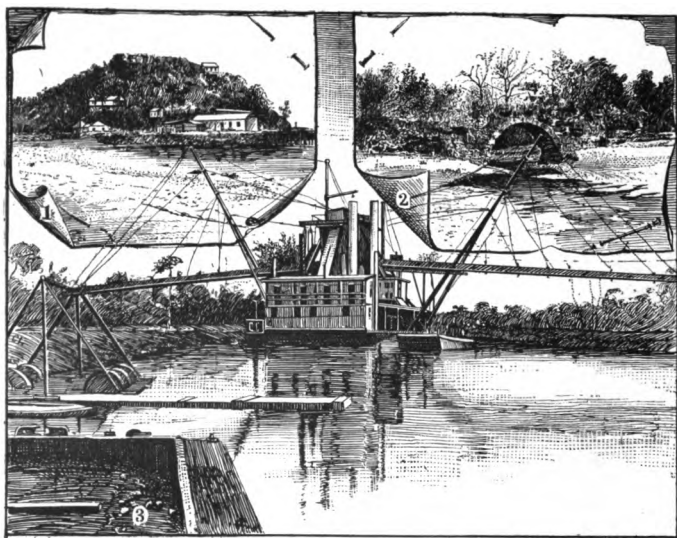
Now let us take John Chinaman at home, as I have seen him hundreds and hundreds of times on the Isthmus. Generally he had a little shop in which groceries and all sorts of things were sold; off his shop was his sleeping room of the simplest, and oftentimes his bed consisted of a wooden platform resting on a few boxes on end. This was covered by a piece of cheap matting, while one or two blocks of wood, with hollowed out places to receive the head, formed the pillow. That was John's couch. His clothing, as we are all aware, is of a simple type, and his baggy trowsers are well known. Certainly they are cool and do not interfere with ventilation. Their cooking is simple. They, in common with the majority of the inhabitants on the Isthmus, use small braziers and burn charcoal, and on these a pot or pan is placed to make some savory mess. A great staple of John's diet is rice, and the way in which he uses his chopsticks is something remarkable. In such of the rooms as are occupied by opium smokers they had opium pipes, a little extract of opium, a lamp and a wire. They take the wire and thrust it into the extract of opium, getting out a quantity about half the size of a pea. This they cook in the flame of the lamp until it is moulded into a hard button, when it is stuck on the pipe, and then follows the inhalation of the smoke.

During their holidays an immense number of fire crackers and Chinese bombs were used; in fact, one would have thought there was a bombardment going on. Then it was that John Chinaman came out in his best—silk garments of various colors, rich turbans, ornamental sandals, silk stockings, and the like. Of course I am referring to the upper class Chinese. In fact, there were no end of swells in striking apparel.

The inhuman cry that has gone up in the United States—and I regret to say in some British provinces—against these harmless citizens, is a disgrace to our modern civilization. It is the more a disgrace as it is a concession to a class of men whose chief vocation in life

is to foment trouble, interfere with progress and do everything that they can to disturb work and cause embarrassment.

There is one peculiarity about Uncle Sam that has caused me considerable thought, and it is this: while he passes an exclusion bill for the Chinese, he allows his consuls in Spanish America to be consuls for China. It certainly is a left-handed sort of a compliment to those people, which one may interpret thus: "John Chinaman is not good for me or mine and you shall have him, but as far as it lies in my power I shall look after him." This is the exact status of the Chinese question on the Isthmus of Panama, and on the west coast of South America.



1. ISLAND OF MORRO, GULF OF PANAMA.
2. BRIDGE, OLD PANAMA, FIFTEENTH CENTURY.
3. AMERICAN DREDGE, PANAMA CANAL, NEAR BOHIO SOLDADO.

CHAPTER XVIII.

THE LAWS OF COLOMBIA AND THEIR APPLICATION AT PANAMA—HOW A MAN SUSPECTED OF MURDER WAS SHOT ON SIGHT—A SOLDIER WHO SHOT A WOMAN—HIS IMPRISONMENT—THE PANAMA PRISON—SEVEN AMERICANS IMPRISONED NINE MONTHS WITHOUT REDRESS—NO CAPITAL PUNISHMENT—THE CHAIN-GANG AT PANAMA.

I HAVE been told by a gentleman who is competent to give an opinion, and in whose word I have implicit confidence, that the code of civil procedure of the United States of Colombia is excellent. It is claimed that it is quite the equal of the historic "Code Napoleon," than which there is no better law. The law on the statute books and its application at Panama, are opposite conditions. I can best make this point plain by citing a case. In one of the hotels beyond the market a man had been killed, and it was supposed that he had been killed by an Italian. The matter was turned over to the Panama police. For days they could get no information of the murderer. At last it was reported that he was on one of the islands in the bay in hiding. Policemen, armed with Remington rifles, were sent down to find him. They saw the man hiding behind some bushes, fired and killed him. They brought the body up to the city at dead low water and landed it on the edge of the reef. They fastened a rope to his heels and dragged him over the ledges of rock for fully half a mile. Upon reaching the Taller the body was thrown into a cart, taken out to the cemetery and buried. Following that, the judicial inquiry was next in order.

Another case in point was that of a soldier who, while on duty watching some of the unfortunates in the chain gang, was annoyed by a woman. She persisted in both-

ering him, when he levelled his Remington and shot her on the spot. It was a main thoroughfare. The bullet went through her, went through a woman back of her, in the line of fire, and broke the leg of a third. The first two died and the third had her leg amputated at the Charity Hospital. Immediately following there was a terrific hue and cry; the friends of the "late departed" ran the man down, he was cast into prison and tried, and despite the facts in the case, his imprisonment consisted of exactly thirty days in the common jail.

The above mentioned cases are no doubt extreme ones, but to my knowledge they happened. The laws on the statute book are excellent, but it will be true to say that justice there, like kissing, is a matter of favoritism. At other times, renderings in court are brought about, by a magical influence that I shall not dilate upon.

In speaking about the battery of Panama I referred to the fact that it forms the upper part of the Panama prison. Of all the dreary places, that prison really is the worst. It is a huge mass of masonry with gratings, facing a small plaza. The men sleep side by side on a rough board platform. The place is constantly filled by the most disgraceful of odors, owing to the fact that there are no closets. Imprisonment there is little better than death.

Some years ago a keg containing \$50,000 in American gold reached the Isthmus. While in charge of the Panama Railroad Company in Panama, the keg disappeared. A number of Americans were arrested and thrown into prison, seven of them all told. I had occasion to see one or two of them in my professional capacity, and found them shut up in a small vaulted room with a narrow slit in the wall facing the sea. When the door communicating with an outside passage was closed they were in a damp, noisome vault. Their imprisonment was simply iniquitous, for there was no proof against them—and yet those unfortunate men were shut up there for months without being brought to trial, or having any specific charge formulated against them. It was thought then, and it is thought now, that

their arrest was simply to screen the real culprits. Despite the fact that representations were made to the American government, those men languished in that prison for months without redress. After a time they were put "in liberty," to use the term in vogue there, and never received any indemnity. That is another illustration of Colombian justice.

And I may also state that one or two British subjects were likewise locked up for months and months without any specific charge being brought against them, and despite the fact that the British consul protested against it.

Of the Americans who were imprisoned at that time several are on the Isthmus of Panama to-day,* and from the fact that they hold responsible positions it seems safe to infer that the public never suspected them. That money was stolen between Saturday night and Tuesday morning. The Sunday referred to was a holiday and the Monday following likewise was a holiday, and on Tuesday morning the money was gone. Of course it made a great excitement. It was \$50,000 in American gold that had been sent to the Isthmus to be transferred to an American man-of-war, then in the harbor, to pay her crew. The money disappeared, and the individuals referred to were arrested and cast into prison. The persons to whom suspicion pointed went as free as air. It is said that that money left Panama on an outgoing steamer for California, that an individual left his house at four o'clock in the morning, got into a boat accompanied by a heavy package, and went off in the steamer. Subsequent crookedness in the same man's career would lead one to believe that suspicion pointed its finger in the right direction. Certain it is that from that day to this nothing has ever been heard of that \$50,000, and the Americans who were cast into prison never got any indemnification, and doubtless they were as innocent as children unborn.

I simply cite this case as to the peculiarities of law, not tabulated in the civil code of Colombia.

* 1888.

There is no capital punishment in Colombia; ten years is the maximum imprisonment if a man kills a dozen men. It was Isthmian experience that the only individuals who got the maximum punishment for murder were foreigners.

I can remember one case where a Jamaican had murdered a woman, and he got the full sentence under the law. During my long residence there I never knew a native of the country to receive it. On the other hand, I can recall a case where an unfortunate American, who had been trading in a schooner to some of the ports north of the Isthmus, on the Atlantic side, had been detected in fraud and then arrested. It was alleged that a prominent merchant in Colon had lost some seven or eight hundred dollars by the fraudulent practices of this American. I have already told you of the soldier that received thirty days for killing two women. This American was brought to trial, and, owing to the fact that his prosecutor was absolutely devoid of conscience and that he possessed great political influence, the unfortunate man was consigned to a fate worse than death, by a sentence of three years in the Panama prison. Every effort was made by his consul to obtain a diminution of the sentence, by showing extenuating circumstances, but nothing came of it. If he lived it was to be three years in one of those noisome vaults, breathing the foulest air, owing to the fact that a small cask received everything through the day, to be emptied only at night; and to be fed on a diet not fit for a dog. Such was his sentence. Fortunately death released him. He went in a well, strong man. Such surroundings, such air and such food terminated in disease, and his troubles were over. This case is well known upon the Isthmus. I do not mention names, but I could do so. It was iniquitous from beginning to end.

Such of the prisoners as are fit for hard labor are sent out in the streets of Panama to sweep them and to do any sort of work that may be necessary. All of those that have been committed for murder wear a chain. It is secured below by an anklet and above by a piece of

rope. They work under a guard of soldiers of the type of that man who shot the two women. One night when in my room in the Grand Hotel I heard a clank, clank, clank, and I looked out to see some of the unfortunate fellows going by in the dark, carrying a late comrade out to the cemetery. A man with a lantern led, and the military guard followed.

While on the subject of laws, some legislation that was enacted this year* may prove interesting to my readers. I have thought it well to quote the law in Spanish, word for word, as it was published, and below it to give a careful translation:

"ART. 34. El matrimonio contraído conforme á los ritos de la Religion Católica anula *ipso jure* el matrimonio puramente civil, celebrado antes por los contrayentes con otra persona.

"ART. 35. Para los efectos meramente civiles, la Ley reconoce la legitimidad de los hijos concebidos antes de que se anule un matrimonio civil á virtud de lo dispuesto en el artículo anterior.

"ART. 36. El hombre que habiéndose casado civilmente, se case luego con otra mujer con arreglo á los ritos de la Religion Católica es obligado á suministrar alimentos congruos á la primera mujer y á los hijos habidos en ella, mientras está no case católicamente." †

This is the translation:

"ARTICLE 34. Marriage contracted according to the rites of the Catholic Religion of itself annuls (*ipso jure*) a purely civil marriage previously celebrated by the contractants with other persons.

"ARTICLE 35. For the purely civil effects of the Law, it acknowledges the legitimacy of children conceived prior to the annulation of a civil marriage by virtue of the provision of the preceding article.

"ARTICLE 36. The man who having married civilly marries subsequently with another woman, according to the rights of the Catholic Religion, is obliged to provide maintenance for the first wife and for the children had by her, so long as she does not marry according to the Catholic Rite."

* 1888.

† *El Cronista*, Panama, of March 24, 1888.

While describing the churches of Panama I referred to the fact that the Church of Rome had been dispossessed, and that priests and sisters of charity had been driven out of the country, and that the church had been despoiled, presumably for the benefit of the government. Of late years Rome has been feeling her way very cautiously, strengthening her hands at every turn, until to-day she feels her strength to be such that, according to the laws quoted above, civil marriages of the past have been annulled. If there is one thing more than another regarding which the Church of Rome has been as "firm as a rock," it has been on the question of divorce—that once married nothing could undo the marriage, save the cause of adultery. It would now seem that according to the laws of Colombia the civil marriages that have been in force for many long years, can be broken, by any one who wishes to put from him his wife, if the marriage was not according to the Catholic rite. To all lovers of liberty properly so called this retrograde movement in Colombia, whose boast is that her laws are the counterpart of the great republic of the north, will cause both surprise and pain, especially when they think that Rome has struck this blow at the most sacred of institutions.

Under the laws of Colombia the press was at full liberty to discuss any subject. Strange to say, this law has been repealed, and under severe penalties the press is prohibited from publishing anything that reflects upon the civil administration or the Church of Rome. In fact, to such a pass have things come on the Isthmus that the press is no more free than is one of those unfortunates in the prison at Panama. All of this seems the more incredible when we bear in mind that it is a purely republican form of government. The influences back of the executive are well known. Things have taken such shape in that country that to be a free mason means that a man cannot be buried in consecrated ground, and the why and the wherefore of introducing the iniquitous laws dissolving civil marriages are well known to those in Bogota. From my recent visits to

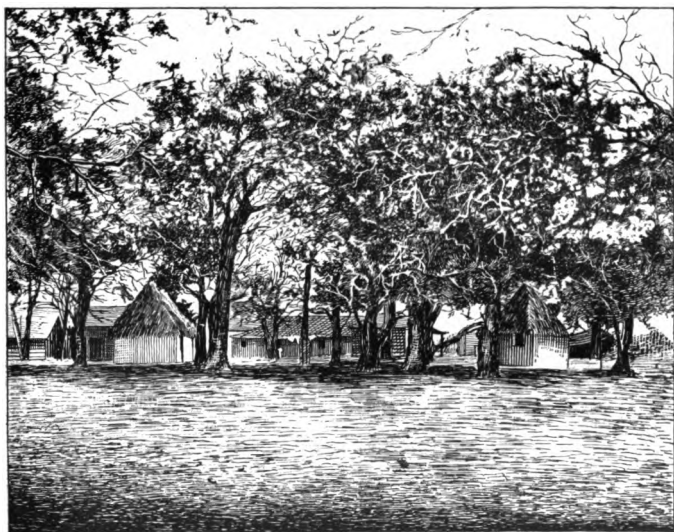
the Isthmus and from information received from there while away, I personally am of the opinion that this iron-handed legislation—this violation of the rights of individuals and of the press—can have but one end—a revolution that will shake that country to its centre; and rightly so. It is impossible to suppose that any intelligent people who have been as free as the air of heaven can reconcile themselves to legislation of this type, which is unworthy of the Autocrat of all the Russias.

CHAPTER XIX.

THE GREAT EARTHQUAKE OF SEPTEMBER 7, 1882—EFFECTS AT PANAMA, CRUCES, COLON AND TOBOGA—TIDAL WAVE IN THE GULF OF DARIEN—LOSS OF LIFE, ETC.—EARLIER EARTHQUAKES IN COLOMBIA.

ON the morning of September 7, 1882, I awoke fancying that some one had got into my room in the hotel and had shaken my bed or got under it. I sat up in bed, looked about the room, but could see nothing, for there was but little moonlight. I couldn't understand the thing and stepped out on the hotel balcony. While standing on that balcony trying to account for the cause that had awakened me, the whole building trembled violently, and there was a groaning, crunching noise that I never shall forget.

The balcony that I was on was some forty-five feet above the street. Before the earthquake, and when taking my room on that floor of the hotel, I had looked around to see what to do in case of fire. As soon as the terrible vibration began I stepped over the railing of the balcony and down on the railing of the balcony of the adjoining house, then jumped to the floor, and ran its full length as rapidly as I could. On getting to the end there was a house some ten feet below me. The only idea I had at the time was that I did not like to die like a rat crushed in a cage. Having had no experience with earthquakes within the tropics I didn't then realize that it was one. Following the violent shake all was quiet, and I retraced my steps, climbed up the balcony, and got to the upper balcony of the hotel. My neighbor in the room adjoining mine, was Senor Don Pedro Merino. He had tried to escape from his room by a door leading into the upper hall, but the door was



TAMARIND GROVE, VILLAGE OF RESTINGUE, ISLAND OF TOBOGA.

jammed, and he couldn't open it. He came to the door of my room, saying that in all his experience in Central America he never had felt so violent a shock. I went into my room, and as soon as I realized it was an earthquake, I looked at my watch; it was 3:20. My bath tub had been partially filled with water the night before for my morning bath. The oscillation of the building had thrown a part of its contents over the floor, bottles were knocked down, others were broken, and the ceiling and walls were cracked. In places parts of the former had fallen. The wall of that strong building at the back, where it was fully two feet thick, showed a crack of nearly two inches. We dressed as hastily as possible to get out into the open, and when we got down into the lower hall found the servants gathered there. The building that we lived in was the *Surcursale*, or annex of the Grand Hotel, and was in the highest point of the city. Hence it felt the vibration more than buildings lower down. When we found the Colombian servants they were sadly frightened. It would seem that when the first shock came they opened a front door to rush out into the street, but did not do so as the tiles on the house came down in a perfect shower. Immediately following the shock and before we had walked down to the main plaza, the whole city was alive with exclamations of terror, and the streets were full of excited people, many of whom had candles. We got into the plaza a little after half past three—it doesn't take people long to dress when earthquakes are about.

I shall never forget the scene in the plaza. It was black with people who had reached there in safety, and had got in the open and away from buildings that were expected to fall. There was still a little light, and the moon was in its last quarter. The hum of voices there and the excitement was something astonishing. There they were, people of all classes—black and white—some dressed, and some very hastily dressed, and some had brought chairs with them. An elderly lady belonging to one of the oldest and most distinguished of Colombian families was found dead sitting in her chair. It was an

old case of heart disease, and it simply required the excitement to kill her.

The upper part of the wall, making the front of the façade of the Cathedral, had been shaken into the plaza; huge masses of masonry had fallen down upon the stone steps in front of the old building, breaking them and driving them into the earth. The Cabildo, or town hall, was wrecked. The lower part was a cloister of the old time Spanish type, with columns and arches. Above there had been another series of arches giving a front balcony with its roof. The latter with the columns had been thrown into the plaza, and many of them were broken into fragments, while a part of the main roof of the building had been shaken down and off. Its front was wrecked. The Canal company's building, while it showed no visible damage, was badly cracked, and a repetition of a shock of equal intensity probably would have thrown part of it down. As soon as a little daylight came in, it was found that the arches of the Cathedral had been badly damaged.

With the return of daylight all seemed to recover some courage, for if there is anything that unnerves one, it is to feel the earth violently tremble under one, and hearing buildings groan. There was a vast deal of damage done in the city; walls had been thrown down, and there had been some accidents. A doctor of law in his fright had jumped from a balcony and broken his leg. In a house on the Calle Real a man and his wife had left their bed just as the upper wall of an adjoining building came through the ceiling, burying it under the *débris*. I should also say that at the Cathedral a number of the Saints had been shaken from their niches in its front. The old tower of the Chapel of Ease, opposite the Quinta of Santa Rita, had been shaken down, burying a wooden shanty from which the family had just escaped. The only fatality in the city of Panama was that of the old lady who died in the plaza.

As the morning advanced we all became more collected, and speculation was rife as to the exact starting-point of the earthquake, the majority fancying that the

wave had travelled southward from Central America. At that time the cable ship *Silvertown* was in the harbor, a huge vessel belonging to the India Rubber, Gutta Percha and Telegraph Company, of London, England. She had just completed the laying of the cables of the Central and South American Telegraph Company, from Peru to the Isthmus and thence to Mexico. The chief of the cable staff, Mr. Robert Kaye Gray, F. R. G. S., was on shore. After hearing all that was to be ascertained regarding the earthquake and examining a number of buildings, together with my quarters in the hotel, which he considered had suffered most, he expressed the opinion that its origin was local. The cable of the West India and Panama Telegraph Company from Colon to the West Indies, and thence to Florida in the States, had been broken. Thus we were shut off from that side, and could get no news from the outside world. The Central and South American Cable had been successfully laid but it still was in the hands of contractors, or Mr. Gray's company. The interests of the Cable Company proper were represented by Mr. J. H. Stearns, a gentleman whose patent for duplex telegraphy has made him well known in the scientific world. Thanks to the courtesy of these gentlemen, I was enabled to send a press despatch—the very first—over their cable to New York. I sent the *Herald* four hundred and eighty-five words. Later on we got information as to what had happened in other places. The crews on the vessels at anchor off the islands of Naos and Flamenco were roused from their sleep—such as were not on duty—and supposed that the vessels had grounded or were dragging their anchors. The island of Toboga, nine miles from Panama, had had a severe shaking and part of a substantial cliff had fallen into the sea. Some people came over to Panama from the Colon side, and then it was that we learned that the shaking in Colon had been even worse than on our side. From the city of Colon to Baila-Mona the Panama Railroad had been rendered almost useless. In places the road-bed had sunk; in others it was completely thrown out of line, and for two and twenty miles this

condition of things obtained. The long bridge, of over 600 feet, at Barbacoas was thrown slightly out of line.

In speaking of Morgan and the river Chagres, reference has been made to Cruz of those days, or Las Cruces of to-day. The latter settlement is not very far from one of the central railway stations on the Isthmus. Previous to the earthquake there had been a substantial stone church there. That building literally had been shaken to pieces. Its ruins were photographed by M. Demers, chief of the photographic service of the Panama Inter-oceanic Canal Company. Not a piece of the wall four feet high was standing. We learned subsequently that several lives had been lost in a small village between Colon and Panama.

With Colon on the Atlantic my readers are tolerably familiar. The majority of its buildings were of wood. The violence of the shock was such that piles of plank, put up in the usual way, were shaken down and, bad as our experience was in Panama, certainly the earthquake violence there was greater. It was such that people who attempted to walk, were thrown off their feet. There were also a few accidents. As usual, under such terrible circumstances, the majority absolutely lost their heads. Strong men, who under ordinary circumstances would have undergone almost anything, were as helpless as children. When daylight came upon the scene in Colon, it was found that a great rent crossed the island from near the substantial stone freight sheds of the Panama Railroad Company right along the front street to the earthen embankment connecting the island with the main land. Later on a fissure was discovered running along the right bank of the Chagres. It was traced some three miles and varied in breadth from several inches to a mere crack, closing below in abyssmal darkness.

I was told by Mr. Burns, an intelligent American contractor, who was then mining in the hills between Colon and Panama, that men in his camp were shaken off their feet, and that a mule fell and rolled over and over. That was the earthquake of the first day. The next morning about five o'clock there was another one. I

did not dare stay in the hotel, as it was so badly damaged. The lofty buildings practically were abandoned, and all who could go out of town, went out into the open country, sleeping under tents or any shelter they could get. Business was absolutely at a standstill; the sick forgot their illnesses, and the only subject of conversation was *los temblores* or the earthquakes. A friend, now resident in St. Thomas, had offered me a shake down over the Colonial Bank. While nobody was afraid, the sociability was intense. The next morning, at 4:53, there was a violent shake, and we hurriedly dressed and got out into the street. As usual, the whole town was alive; all of our fears had been reawakened, and a feeling of impending disaster impressed everybody. When daylight came we were out in the Plaza St. Anna, and well do I remember the first pencillings of light along the horizon and the quiet delight with which we welcomed it.

While severe earthquakes during the day are bad, in the darkness of night they really are appalling. On the second night after the earthquake, I accepted an invitation from another friend, whose building was not so lofty as the bank, in which I had passed the previous night. He adopted an ingenious device, well known in earthquake countries. In subsequent press letters I dubbed them "Stearns' Earthquake Detectors." He stood two soda bottles and a number of mineral bottles on their mouths. Any shock would upset them and give an alarm. The tremor that night was but a slight one, and on the third night I slept in the hotel proper—in a way, for we were all so unstrung by the intense nervous strain, that restful sleep was out of the question. The building of the Cable Company, in which I passed my second night, was so damaged that one of its walls subsequently had to be stayed up and secured. At that time the Panama Canal Company had a maregraph at Colon, and it was found that there had been a species of tidal wave, as indicated by the perpendicular tracings made by that instrument. As I have stated, the Panama and West India Company's cable was broken, and

the other cable was not open to the public as it had not been transferred by the directors to the company, and consequently we were shut off. There is a general impression that "news travels by post," but, as an exception to the rule, I may here state that, upwards of a month subsequently, we received information on the Isthmus to the effect that a tidal wave had swept some of the islands on the Atlantic side in the vicinity of the Gulf of Darien. It swept across them, washing away ranchos and inhabitants, and some sixty-five people perished. But, as I have said, we only learned this a month later. It would seem that the ~~centre~~ centre of seismic disturbance had been a little to the south of the Isthmus of Panama and almost opposite the old Isthmus of Darien. Hence, the tidal waves that swept the islands in the Archipelago in that direction, and the earthquake wave which so violently shook the Isthmus.

I kept records during the "shakes." After the fifth day there were no strong, but many minor, ones. I have notes and records of them by the dozen.

The third violent shock was about the fourth day; it occurred about eleven o'clock, P. M., when, in common with others, I was tremendously pleased to get into the Plaza Triompha and out in the open. The only idea that seems to actuate one under such circumstances, is to get away from buildings, or anything that can fall upon one. While we were in that Plaza—everybody talking to everybody, for on such occasions formalities do not exist—there were violent shakings, and in a street near us there was a rush and considerable excitement caused by a hysterical woman's shrieking.

On the afternoon of that day an old acquaintance of a friend of mine had visited his house, and it being late at night asked the privilege of staying there. She was allotted a room and a hammock. On the morning subsequent to this last shock they found she was not awake, and thought she had overslept herself. Later, finding she did not move, they approached her hammock and found her dead—another case of heart disease, her death being caused by excitement.

While making no professions of bravery, I have yet to learn that I lack the courage common to most men, but for weeks after that experience when in the quiet of my room at night, surrounded by cracked walls, whenever I allowed my mind to dwell upon the awful scene, I would shiver from head to foot. It was a fearful experience. If there is any one thing that utterly unnerves one, it is an earthquake of that type—one that will shake buildings to pieces, partially destroy a railroad, and create the havoc and destruction of that terrific earthquake of the 7th of September, 1882.

As soon as it was possible to collect reliable data I sent a series of letters to the *Montreal Gazette*, and they were published *in extenso*. Following their publication there was a lot of scientific discussion in the Old Country, as to what would be the effect of an earthquake on a completed canal. Scientists took the ground that the embankment on the side whence the wave came, would suffer most, and that an earthquake of that violence would seriously damage any canal.

As soon as possible I instituted careful inquiry as to the history of the early earthquakes on the Isthmus, for, when I became a resident there, I had no knowledge of earthquakes, nor had I ever heard of any in connection with that neck of land. From the typical "oldest inhabitants" I learned that the earthquake in the fall of 1858, that had so damaged Carthagená on the Atlantic, had done a great deal of damage in the City of Panama. I also learned that upwards of a century ago the country had been terrifically shaken from Santa Fé de Bogotá to Panama, and that about one hundred thousand lives had been lost. Some ten years prior to the earthquake of 1882 there had been a violent shock, the greatest force being felt in the State of Antioquia, to the south of the Isthmus. A pueblo, or village called Cucuta, was literally shaken down and upwards of five thousand people lost their lives.* It will be seen that earthquakes in Colombia are not modern inventions.†

* *Star and Herald*, Panama, 1878.

† "Humboldt's Travels."

A remarkable feature in connection with that earthquake period at Panama must not be overlooked. It would seem that my despatch to the *New York Herald* was cabled abroad, and it all but produced an earthquake among M. De Lesseps' shareholders. He at once informed the world that there would be no more earthquakes on the Isthmus. Strange to say, despite the utterances of this celebrated man, the earthquakes kept on, to the unstringing of our nerves and to the contradiction of even so distinguished an individual as Count Ferdinand de Lesseps.

Another statement in connection with this and I have done. Such of my readers as are familiar with the historic Paris Congress of May, 1879, that was called together to consider the Panama Canal, will remember that M. de Lesseps denounced any Nicaragua route as impracticable, owing to the fact that it was a land of earthquakes, and that the only route was that at Panama. The only interpretation that one can place on such a statement is, that M. de Lesseps had settled on the Panama route before calling his scientists together. And such was the case. That he, as an intelligent man, could have made such a broad statement, savors of absolute ignorance regarding the past of the Isthmus; as that indefatigable traveller and great authority, Humboldt, refers to the peculiar formation of parts of Colombia and the terrific cataclysms that must have obtained there in early days.

Within the last few days* I note that the adjoining Republic of Ecuador has been violently shaken by earthquakes, and so violent were they that they produced a panic among the people. What effect such earthquakes would have upon a tide level canal or any other canal are best imagined, and description is unnecessary.

* April, 1888.



**AFRICAN METHOD OF HOLDING CHILDREN ACROSS HIP, GULF
OF PANAMA.**

CHAPTER XX.

CARTHAGENA, THE CITADEL OF GOLDEN CASTILE—ITS FORTIFICATIONS—COST EIGHTY MILLIONS—CHURCHES—EARLY HISTORY—SITUATION—BARBANQUILLA, ON THE MAGDALENA RIVER.

CARTHAGENA de los Indias was Spain's stronghold on the Spanish Main.

Before entering upon its history I shall consider the harbor of Carthagená, of which one reads: "It is the finest and most commodious port on the north coast of New Granada, where large vessels can lie in great security, effect any ordinary repairs, and, if necessary, heave. It is formed between the low mangrove shore of the main on the east, Tierra Bomba Island on the west, and Barú Island on the south; is about eight miles in length from north to south; but its breadth varies considerably. Near the middle the eastern extremity of Tierra Bomba stretches so far across, as to nearly divide it into two large basins.

"The city, which is the capital of the province, is situated (population 20,000) at the north end of the harbor on a low, narrow neck of sand about two miles in length, and is enclosed within walls of the most solid description; the churches and other buildings are also of a similar substantial character. It occupies a space of about three-quarters of a mile north and south, and about half a mile from east to west, and communicates with the main-land by a wooden bridge two hundred and fifty yards in length, and with Calamar, on the river Magdalena, by a canal having a depth of eight feet (El Dique).

"About a mile eastward of the city lies La Popa hill, five hundred and ten feet above the sea, of a wedge-like form, with the thick end to the south; at this end there

is a signal post and a large convent, the massive white walls of which are forty-five feet high. In clear weather the hill may be seen from a distance of thirty miles, and it is a remarkable object when seen from off Galera Point.

"At the base of La Popa, between it and the city, on a small hill one hundred and twenty-five feet high, are the ruins of the castle of San Lazarus; and at the entrance to the small lagoon which separates the city from the main-land and the harbor, is Pastelillo fort. Spring tides rise eighteen inches and neaps six inches."*

Now for a brief glimpse at its past:

"In Ojeadas' voyage thither, in 1509, he found the natives to be warlike men of Carib origin. They wielded great swords of palm wood, defended themselves with osier targets, and dipped their arrows in a subtle poison. The women as well as the men mingled in the battle, being expert with the bow and throwing a species of lance, called azagay.†

"The city of Carthagena lies in latitude 10° 25' north, and 75° and 30' west longitude. ‡

"The climate is that of the coast, or a perpetual summer.

"The weather affects national character directly, by means of dress, and indirectly through agricultural products; the most important of them in this respect is the platano, or plantain. The plantain saves man more labor than steam. It gives him the greatest amount of food from a given piece of ground, with a labor so small that the raising of it to the mouth, after roasting is a material part of it. 'New Granada would be something,' says my neighbor, Caldas, 'if we could exterminate the platano and the cane; one is the parent of idleness and the other of drunkenness.' It is calculated that the ground yielding wheat for the sustenance of one man, would grow plantains for twenty-five men."§

* "The West India Pilot," Vol. I. 1883, London.

† "Companions of Columbus," New York.

‡ "The West India Pilot," Vol. I. 1883, London.

§ "New Granada," Holton, N. Y., 1857.

As will be gathered from the foregoing, it is a land of perpetual sunshine; its seasons are the counterpart of those of Panama. Long before it was my privilege to pay Carthagena a visit, I had heard a great deal of its wonderful fortifications. The harbor is very pretty and striking. The steamers enter between a water battery and a strongly built fort on a small island at the Boca, or mouth. That entrance is called La Boca Chicha, or the smaller one. The great mouth to the harbor was obstructed by the Spaniards themselves, who sank ships in it to prevent the entrance of the English. The small fort at Boca Chica will always have a sad interest for admirers of liberty, for one of Colombia's bravest sons, the late General Saitan, was imprisoned there, after the failure of the revolution of 1884. Later he was taken to Panama as a prisoner. While there, in the enjoyment of perfect health, he was suddenly cut off, and if the information received regarding his sudden death is accurate, he was poisoned. I may state at this point, that the knife and poison for political enemies are no modern invention in Colombia, and I could, if I wished, cite cases where president after president has met an untimely end.

Past the fort are land batteries of a most substantial type, all built by the Spaniards, commanding a pretty stretch of water, and as one sails up the bay one gets a good view of La Popa, which, with its buildings on the top, reminds one of the many castles in Spain and Portugal, which were built by the Moorish invaders. The country thereabouts is very pretty—on one side a sweep of green caused by a dense grove of mangroves, and on the other, table-lands, palms and ranchos, while the whole is backed by hills. At last the good ship *Dervent* threw her mud-hook overboard, and we came to, about three-quarters of a mile from Carthagena. It bears the strongest resemblance to Cadiz, in Andalusia, Spain, though the walls of the latter are not nearly as substantial as those of Carthagena. I can better give an idea of the size of the walls, their strength and massive character, by stating that they cost Spain some eighty

millions of dollars over two centuries ago. I left our ship in a small boat for the shore, passed another water battery, around a bend and some shallows, and landed at a pier. Thence through a huge water gate, and so to the old city. But for the fact that I had seen so much like it in Spain, it would have been a treat of treats—and as it was, it was most instructive. I wandered around the old streets, with their projecting balconies and barred windows, and could almost have fancied myself in some city of old Spain. An American writer who has paid considerable attention to the architecture of that country calls it “the Spanish order of architecture. With the above caption the hypercritical may jump at his chance, and say there is no such order laid down in the books on architecture. Be that as it may, it matters little to the present point in question. Those who have become acquainted with Spain, and countries descended from her, know that the Spaniards in all the lands in which they have planted their prestige, gave to their houses a peculiar form of construction, which no other country has adopted with the same degree of uniformity. Hence, it is not wrong in meaning when an order is assigned them. This peculiar form is more universally followed by the descendant of the Moor than any other order of architecture is by any other civilized nation.”*

I am quite of Dr. Trowbridge's opinion that in all countries where the Spaniards have been, they have left the indelible impress of their architecture. The houses in Spanish cities—the majority of them—are as much alike as peas. The fortifications generally are identical. The fortifications around Carthagená are the most extensive that it has ever been my good fortune to examine. There are places on the ramparts there where six carriages could be driven abreast; the thickness of the walls is thirty to sixty feet, backed by a solid embankment of earth. The upper sections of the outer walls are

* “Yellow Fever in Vera Cruz”; Dr. Trowbridge. Vera Cruz, Mexico, 1883.

pierced from point to point with embrasures for guns. Here and there one observes the peculiar Moorish towers for sentinels. These are circular, built wholly of stone, including their cupolas, with long vertical slits on their sea faces for observation. Along the old ramparts were a number of guns, of the ancient and of the modern type. Some of the old ones were a mass of rust and absolutely useless—some upright, others partially broken down. Many of the more modern guns, all muzzle loaders, were mounted on substantial wooden gun carriages of English manufacture. Some of the older guns were mounted on wooden carriages whose wheels were huge disks of wood shod with iron. Again other guns were on iron carriages. Just inside the fortifications there is a street. It is a remarkable stronghold and historic in many ways. Within the city are many churches. The Church of Santo Domingo, or Saint Dominic, is an important one. San Juan de Dios is another very large church that was being repaired while I was there. It is a huge structure, with the usual Moorish towers, and a Moorish dome. It had been modernized by covering it with a light-colored, yellow wash and blocking it off in squares—to my mind, little better than sacrilege.

Carthagena connects by a narrow neck of sand with a very considerable settlement outside the walls. The landing-place there presented a great deal of animation on a market day, when people came up in their bungaloes, or canoes, and drew them up on the sands and chaffered over the various products offered for sale. The majority were black-skinned, of Indian descent, but of course there was some blending with the African. Outside the walls, between Carthagena and the town beyond, is the Camilon, or pleasure ground. On each side of the street which crosses it, are a number of pedestals, and on these are remarkable busts of distinguished Colombians. They are out of the open, the whole unprotected.

El Cerro San Felipe, or the hill of Saint Philip, is connected with the old city by a tunnel that it is said cost

\$11,000,000. Reference has already been made to La Popa, which is an old time fortification and monastery. Despite this fortification, and the land and water batteries, the English stormed the city and carried it. It is said that the defense was most obstinate, but the indomitable will of the sons of John Bull led to their victory. But it was purchased at a fearful price, for thousands of English sailors, soldiers and marines died of fever. The pretty water battery, El Pastelillo, to-day is known as El Redouto. Back of this there is a stretch of green and the hill of San Felipe in the distance; on its right is La Popa, and on the left, the city.

The royal mail steamer *Derwent*, Captain Powles, cleared from Carthagena late in the afternoon, when I had another opportunity of seeing the sun set on the city and all the play of light as the ship steered out into the open. The run to Salgar, the port of Barranquilla, was made in about eight hours; it could have been done in less, but there was no hurry. At Salgar I went off in a tug to the shore and took the railroad for Barranquilla. The trip between the port and the city, owing to the flatness of the country, was not very interesting. In some lagoons I noticed immense numbers of white cranes. Barranquilla is an old town on the river Magdalena. The majority of the houses in the city are of stone covered by very thick thatches of native grasses resembling hay. These thatches are put on in the most substantial manner, and then are neatly squared off where they hang over the sidewalk. They are twelve to eighteen inches thick. These, with the whitewashed walls of the houses, present a somewhat peculiar appearance. Barranquilla is largely built on sandy soil. The streets are all sandy, travelling is most difficult, and the dust is constant. While the place is very hot, it has been claimed that it is healthy. Generally speaking, I presume this is the case.

Some native troops were stationed there. Most of them were Indians, men of small figure, active, wiry, and, when well led, good fighters. They have been

called machine soldiers* by an American writer, and the name is a good one. These men, when well drilled, are most successful in military evolutions. At Panama I saw a number of dress parades where many complicated movements were made by them—movements based largely upon the tactics of the French. Many of the Colombian regiments have scarlet trowsers and the shako, so familiar to those who have seen the French troops.

Near the old church in the heart of Barranquilla, there is a broad cement walk running for a considerable distance through the centre of one of the main thoroughfares. Twice a week the band plays there—Thursdays and Sundays. On the evening of the latter day the *élite* of the city may be found promenading up and down, listening to the music, much of which is excellent. When one is travelling about I know of no better place of getting an idea of the middle and upper classes than to attend one of these band stands. These outdoor concerts last some two hours, and are events in a somewhat quiet life.

I stayed at the best hotel in the town—but don't think me extravagant until I tell you what it cost. A room was assigned to me in which there were four cots. The partitions ran up about eight feet. The rooms were almost in common. For a money consideration of two dollars in Colombian paper, which was about one dollar in American gold, I secured all the rights and privileges of my room, including meals and attendance, for I strongly objected to being doubled up, trebled up, or quadrupled, as sometimes obtains in those countries.

Life in Barranquilla certainly is very quiet. It does a large trade, as will be gathered from the chapter thereon. Its sister city of Carthagena does not do a very large trade with it. At Barranquilla one can take a steamer up the river for Calamar and thence through El Dique, or the canal to Carthagena. I spent nearly a fortnight there and made many pleasant acquaintances; among

* "Harper's Monthly."

others, that of Mr. Pellet, for twenty years United States Consul, and latterly editor and proprietor of the *Shipping List*. In his brochure* he gives a world of information regarding the town some twenty years ago, from which I shall quote the following:

"The national post office, (Heaven help the mark), was in a small straw house, with a mud floor. The correspondence was dumped down in the dirt, and each went in and 'helped himself;' and our old friend Constantine, had the reputation of having the first reading of all the newspapers which came for the whole community. Our genial companion of those days, Mr. Hulle, recounts the fact that, when purser of one of the river steamers, he picked up the national mail which was coming down in a canoe, and on delivering it at the post office, and asking for a receipt, was met by the postmaster with the announcement that he had neither pen, ink nor paper in his office."

That style of post office is of the past, and there is a well organized service now.

The city of Carthagena does a very large export and import trade. These two cities handle the bulk of native exports and imports. There is a port on the Pacific to the south of the Isthmus, called San Buenaventura. It is low and unhealthy. A railroad has been built there connecting with the interior, and it is supposed to be a shorter way of reaching Santa Fé de Bogota, the capital.

Bogota is on an elevated table-land 8000 feet above sea level. To reach it from Colon one has to proceed to Carthagena or Barranquilla, and go up the Magdalena as far as he can. If it is in the wet season the trip can be made without serious inconvenience, I am told. But in the dry season, even a steamer of the shallow draft Mississippi type, used there, can only go a short distance towards Honda. Then the journey has to be made on mule-back. Sometimes it is a matter of weeks and is attended with a world of serious inconvenience. Of the

* "Twenty Years in Barranquilla."

route from San Buenaventura on the Pacific, I have not heard so much, but in the wet season it presents many difficulties, and getting to the capital is a serious undertaking at any time.

CHAPTER XXI.

THE FORTY-NINE, OR CALIFORNIA DAYS OF PANAMA—THE OLD ROUTE ACROSS THE ISTHMUS—REMINISCENCES OF EARLY DAYS.

THE Panama Railroad grew out of the discovery of gold in California. The finding of gold near Colonel Sutter's saw-mill in the vicinity of Sacramento, and the developments in various parts of the State, soon attracted great numbers of men to California, as a field for money-making and speculation. Going out across the plains, or the Great American Desert, in those days, meant months of great risk and great expense. Thousands went to California by way of Nicaragua, going up the river as far as the lake, then crossing that and so down to the Pacific side, there to take a steamer. That was the shortest way of getting there. While hundreds went on to California, thousands crossed the Isthmus of Panama. Many booked through. The vessel's destination after leaving New York was the mouth of the Chagres. Once landed on that river there were days and nights of toil, and all the unpleasant elements of climate, and vigorous insect life to combat. Crossing the Isthmus in those days meant anywhere from four to six days. The gold hunters were rowed or pulled up the river, largely by native boatmen, generally to some point in the vicinity of Cruces, or Cruz. There they took mules to Panama. Those of the travellers who could afford it in the upper section of the Isthmus hired *selleros*, who took their name from the *sella*, a kind of chair, that they had lashed to their backs. After getting to Panama, many of them used to shed their apparel, and the collection of old hats, red shirts and the like in the streets was something astonishing. This information I obtained from the typical



RANCHOS OF RESTINGUE, ISLAND OF TOBOGA.

oldest inhabitant, and I presume it is as true as are the statements of other "oldest inhabitants." In 1851, while hundreds were waiting on the Isthmus of Panama for a steamer to San Francisco, there was an outbreak of cholera. The disease was taken to the Isthmus of Panama from the city of New York. In 1852, the Seventh United States Infantry was on the Isthmus, *en route* to California. Captain U. S. Grant was with them, and states, that fully one-seventh of that regiment were killed by the cholera.*

The epidemic got in among the gold hunters, and I have been told by a gentleman, who was there at the time, that some six hundred were lost. Any one who knows the old battery, will recollect on the rampart, leading up to it, there are many names and initials cut in the stone caps—initials in some instances, names in full in others—together with dates. They used to go up there and await patiently, first to note an incoming vessel from San Francisco, and then to prepare to get away. The crowds on the Isthmus were such that sometimes they were detained for weeks, although in many cases they were booked through to California. The Rev. Mr. Williams in his work,† relates an incident that happened while he was on the Isthmus awaiting passage to the new El Dorado. One day a number of them were passing near the old church of La Merced, now familiar to my readers. One of them fell down and expired on the spot. The case was supposed to be one of heart disease. He was an American, and his sudden death excited a great deal of sympathy. In the midst of their sympathetic expressions one of their number said, "He had a through ticket for California," and their thoughts were taken from the dead man to the next name on the list.

Some of those early day steamers bear the same proportion to those of to-day that the vessels of Columbus do to an ordinary ship. Off the Island of Naos at anchor is the old steamer *Winchester*. She belongs to the Pacific Mail Steamship Company. On another face of the island

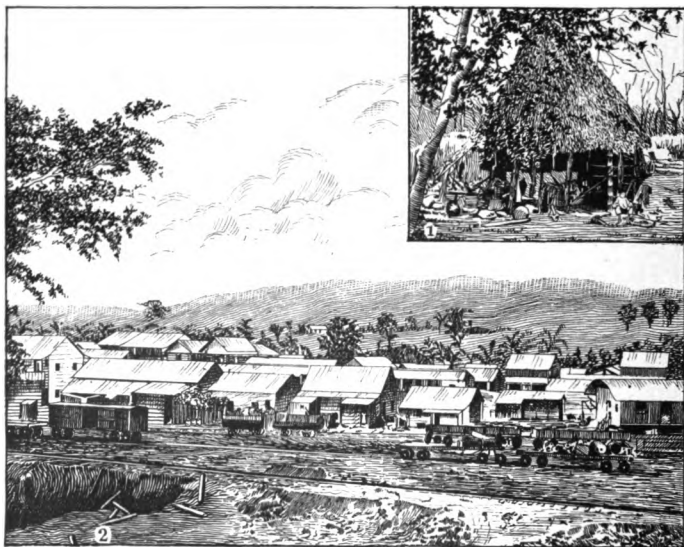
* "Grant's Memoirs," Volume I.

† "The Growth of the Presbyterian Church in California."

there is the wreck of the *St. Louis*, an old side-wheeler. The number of passengers carried on them, however, was something astonishing. Hundreds and hundreds, and later when the larger boats of the type of the *Golden Gate*, that was burned off the coast of Mexico came in, as many as fifteen to seventeen hundred embarked. The Pacific Mail Steamship Company then operated the line from New York to the Isthmus, and on the Pacific, the ships in part belonged to the Panama Railroad Company. Later its vessels were all sold to the Pacific Mail Steamship Company, the railroad company only retaining their line across the Isthmus.

It was then customary to disembark passengers anywhere on the coast of California, and hundreds left the steamer at Santa Barbara, one of the most charming spots on the Pacific. They then had to look forward to a pleasant trudge of some two hundred and eighty-odd miles to get into the gold mining district. "Forty-nine" and its days call to mind the experience of a young Canadian physician who obtained his diploma in Canada. He left home with a modest sum of money in his pocket, full of hope, and with his diploma in his trunk. He liberally discounted his golden future on his way out, by spending all the money he had. When he reached San Francisco, he found that a doctor was of no more importance than anybody else, but he was a plucky fellow, and he engaged himself to a company then fishing for salmon. He dropped the title of "Doctor," and for months and months worked at curing fish. He got four dollars a day. At last he went into the interior, put out his shingle, and made a success.

The sums of gold that crossed the Isthmus in those days from Mexico to the Atlantic were simply fabulous. Millions were carried across, and never was a dollar stolen. The system of portage was excellent, thoroughly organized, and every precaution was taken. The specie was carried on the backs of mules to a point near Cruces. It then went down the Chagres in bungees or canoes to the village at its mouth, Chagres on the Atlantic, and was there shipped to New York.



1. NATIVE RANCHO. 2. VILLAGE OF EMPERADOR, LINE OF
PANAMA RAILWAY AND CANAL.

CHAPTER XXII.

THE DEPARTMENT OF CHIRIQUI, IN THE STATE OF PANAMA—
ITS VOLCANOES, SCENERY, GUACAS AND GUACALS—CON-
TENTS—CLIMATE—MESA, OR TABLE-LANDS—DAME NATURE
AT HOME—RAMBLES IN HER HOT-HOUSES—ORCHIDS—ISLA
DE LOS MUERTOS.

THE department of Chiriqui, in the State of Panama, being the extreme northern section of the State, is one that teems with varied interests, either to the archæologist, geologist, or botanist. For several years I had looked forward to a trip to that part of the country and had been greatly interested in what I had read of it,* and of the hundreds of curios unearthed there by Mr. J. A. McNeil, an American archæologist, who had spent some years in that department.

One day about the end of February, 1886, together with Mr. A. Hübsche, an Austrian botanist, I embarked on the steamship *Cargador* for David. We left shortly after nightfall, and our departure was announced by the firing of a cannon. The *Cargador* was built in Old England as a harbor freight steamer. She was of considerable breadth of beam, and was a shallow draft steamer with double screws. For years she had been engaged in the cattle trade. The trip was uneventful until we got off the coast of Chiriqui, when some beautiful scenery gladdened our hearts. We entered one of the bocas or mouths, continued along arms of the sea amid peaceful scenery, new vistas opening upon us from point to point. Later we got a good sight of El Volcan, or the huge mountain back of David. The steamer wound her way in and out among the lagoons and arms of the sea, and

* "The Isthmus of Panama:" Bidwell, London.

at last was tied up to the bank, some three miles from the pueblo or town of David. We drove up in a species of carriage, our luggage following us, going over a very pretty piece of table-land. After the old town was reached we learnt where we could obtain rooms on its outskirts, and went to what had been a native farm house. It was but one story, covered with red tiles. The senora intimated that we could have rooms for a "consideration," and having fixed thereon we were ushered into our apartments. Mine faced the street. The partitions did not run up to the ceiling, being open at the top for the circulation of air and vampire bats. There were no windows in my room, but there were shutters. These when open let in the sunlight, but when closed made the room dark. There was a cot in one corner, a species of washstand in another; and after some negotiation I secured a tin wash-bowl, some soap, and a promise of an abundant supply of water. That tin basin had to be the bath-tub for that trip. Looking upward there were the red tiles. The room was not as luxuriously appointed as some I have seen in my wanderings. I noticed near my bed marks where four candles had been placed upon the floor. I knew what it meant and asked when the last funeral took place. I was informed by my hostess that the man had died but a few weeks previously, and she mentioned the name of an American of Panama, who, by the way, was one of the men locked up for supposed participation in the stealing of that \$50,000. That was a pleasant sort of talk for me, but it didn't interfere with my plans in the slightest. My neighbor, the botanist, took up the inquiry, and found that a journalist had recently died in his room of consumption,—so he certainly had no advantage.

The first night in that house gave me considerable trouble. There were no ghosts; the journalist didn't come back, nor did the other fellow; but the house was full of bats and they kept flying about the place, occasionally sweeping over me, when I could feel the current of air. That was "an extra" which had not been bar-

gained for. We are told "that memory is the only friend;" but at times I am inclined to believe it is a contemptible one. No sooner did those wretched bats commence flying about than I recalled the fact that cattle were often killed by them. Then other peculiarities of the bat came to me, such as their habit of fastening on their victims and fanning the part so skillfully with their wings, that their bite was not felt, the result being a full bat and an ex-sanguined gringo. There was nothing for it. I had to sleep. Fatigue overcame my imagination and I went to sleep, and awoke in the morning as right as possible. After two or three nights, I got accustomed to the bats, and so did my neighbor in the next room. We could have dispensed with them, and gladly, but, as they formed part of the household, there was nothing to be done. Once having settled down in my spacious quarters, I looked up my old friend Mr. McNeil. I found him in his quarters in the village, very ill, surrounded by no end of curios. The art of the physician came in play, and, thanks to it and his good constitution, he was soon about again, when we talked over our "old fads," the pottery implements found in the guacals, or graves of the Chiriqui.

I must here state that, thanks to Mr. McNeil, my attention was drawn to the many curios from the prehistoric graves of David. The town of David is the chief town of the department and lies on a noble savanna, or plain. It, with the well wooded coast line in front and the grand old mountain at the back, forms one of the prettiest pictures imaginable. It was classic in all of its details. El Volcan, or the volcano, as the mountain is named, has been extinct for many years. It has three craters; its height is 3,000 feet. It had been our intention to visit them all, but, owing to the lateness of the season and the approach of the rains, we had to abandon that part of the programme. David is one of those odd-looking settlements seen in all the Spanish Americas. The houses are generally one story high, whitewashed, and are section covered with red tiles of native manufacture. The majority of the houses have

covered-in verandas in front. It is a quiet, easy life in which there is no indecent haste; the climate is perpetual summer, vegetation is luxuriant, and one's tranquillity is only varied by intermittent fever and occasional revolutionary outbreaks. A Colombian is like an Irishman, in that he must have some distraction. The streets of the city are not lit by electricity, and they have no tramways.

Guacals is the name employed by the Indians of the department to designate the old cemeteries; the word "guaca" meaning a grave. History is silent about the people who are buried in thousands there. The discovery of these old cemeteries came about on this wise. Many, many years ago in cutting a trench through a peaceful forest to drain off water, the Indian diggers came upon an image of gold. Great was their surprise, and the *execrable sedd'ore*, or the "cursed thirst of gold" settled upon that primitive people like a nightmare. They kept on digging, and unearthed quantities of golden ornaments and images of various kinds. Soon hundreds were digging in the forest, and it has been estimated that gold ornaments were uncovered to a value exceeding \$400,000 in a space of five or six years. They were sold for their weight, or value in coin, and went into the melting pot. Later, some archæologists took an interest in the matter, and some systematic work was done, they directing, and the natives doing the digging. It would seem that in the majority of cases the graves first were dug, their sides lined with pieces of stone, and then cross-pieces were laid over these. Inside, the pottery was placed, together with ornaments of gold, cooking utensils, etc. The graves of the poorer classes contained nothing but cooking utensils, and no gold ornaments were found in them. A native locates a grave by tapping the earth as he walks along. As soon as he gets a hollow sound familiar to his expert ear he commences digging, and digs down. The contents are stone implements, pottery implements, ornaments, and pure gold, and ornaments of gold gilt, a species of pinchbeck, called by the natives there tum-

bago. There are also ornaments in copper, and a few bone instruments.

There are a number of small idols in stone, varying from nine to eighteen inches high. There is also a species of grinding stone, on which they evidently ground their corn, or its equivalent. The better class of these grinding stones were from eighteen to twenty-four inches in length, and from twelve to fifteen inches in width. I am now speaking of some of the largest. They were concave on top, and in the graves were found stone rollers fitting the upper surface. Generally they were made to represent some animal. There were some with tiger shaped heads and four legs. The tail generally folded around and rested on the left hind leg. A commoner type of grinding stone resembled a low stool of stone without any ornamentation. In the graves were found an endless variety of stone chisels and stone hatchets. Some of these chisels and hatchets were beautifully proportioned, presenting various planes and surfaces for examination, and their edges in many instances were sharp even after having been exposed for long centuries to the effects of that humid soil. These were the implements with which the people did all their carving.

In the pottery implements the variety was almost endless, not only suggesting considerable ingenuity, but also some knowledge of the anatomy of the human figure. Between many of these pieces of pottery and the male angels on the doors of La Merced, at Panama, there was a striking analogy. If I had to describe these things to archaeologists interested in the work, and wholly of the masculine sex, there would be no difficulty in conveying my ideas. Roughly classifying the pottery utensils, they were of two kinds, glazed and unglazed, and many of the markings on them had been made in black and red pigments. Many of the borders while crude, were very suggestive. There was a series of gods, little squat figures with triangular faces; nearly all of which had been glazed and were ornamental. Their pectoral development was remarkable. It is supposed that they

were a kind of idol—it may be an idle supposition, but it is all we have to go by. Then there were rattles of ingenious construction, with which they soothed the gentle babe in early days. There was a series of whistles (it is supposed that they were bird calls) producing all sorts of notes, from a full rich sound to a gentle twitter. There was no end of variety in the yellow earthenware pots for cooking purposes. Some of these stood up on three legs; these being hollowed—while within were hardened balls of pottery that played up and down when they were reversed. You could see them through the slots in the leg. Many of these showed traces of fire, and undoubtedly had been used for cooking. Then there were others that were unglazed, of plainer varieties, with little handles placed on their sides close to the rim. Each handle presented the head of some animal. Some of the finest specimens of plain ware really were very handsome. They were obtained by the late M. de Zeltner, a former consul of France, on the Isthmus of Panama. He made a remarkably fine collection, and had them photographed on one large plate, and I saw the latter. He also published a monograph thereon.*

Among the gold ornaments found in the guacas at Chiriqui were many frogs. The frog seems to have been a favorite type of ornament with those early races. The largest frog of pure gold, uncovered there, weighed eighteen ounces. I saw a very good specimen in Panama that weighed six drachms. Another thing that seemed very strange to me was a kind of bell. It was of gold, and the exact counterpart of the old-time sleigh bells, or those with a slot. It had a handle and within were little pieces of metal, and these tiny bells, when shaken, emitted quite a musical sound. I had an opportunity of examining quite a number of them. There were also a number of figures of both men and women. The majority of those found were men.

Among the tumbago ornaments the majority repre-

* "Les Sepultures Prehistoriques de Chiriqui:" De Zeltner, Paris.

sented birds or frogs. From a careful examination of a number of them the body seemed to be made of copper covered by a film of gold. How it was put on, I am unable to say, but certainly gold it was. One specimen that I examined, that belonged to a collection that became the property of Mr. J. H. Stearns, of Short Hills, N. J., was a part of the figure of an animal resembling a lion. That figure caused me endless speculation. It was about an inch and a quarter long. There was the head and part of the mane. The animal was looking backward over its body; it was well proportioned, and its tail curled round to the left. There was a tiny ring fastened to it, by which it was probably suspended from the neck of the wearer. The lower part had rusted away.

I also saw another specimen, which caused me a deal of speculation. It evidently was intended for the figure of some king. It was in bronze, and that surprised me greatly, because the art of casting in bronze is deemed an art to this day, if I have been rightly informed. This king had upon his head a crown. It was claimed that it was found in the vicinity of David.

Thanks to the researches of Stephens in Mexico, and Squier in Nicaragua, we know a great deal of the tribes and of the primitive people of those countries and their past monuments. It is supposed that the people of Chiriqui, like those of the Gulf of Panama, already referred to, had branched off from their more civilized brethren in the highlands of Central America and the east coast of Mexico.

On that trip to David I secured a great many specimens, and photographed them then and there. The bulk of my specimens I sent to the University of McGill College, Montreal, and the others to the Natural History Society of that city.

I have seen a drawing made by Mr. McNeil of the *pedra pintada*, or the painted stone. It was many miles from where we were staying, but one morning we got up bright and early, Mr. Hübsche and myself, and started inland. It was one of those bright, clear,

tropical mornings; and to travel right over the savanna through the open and into the primitive forest was a delight. Onward we went, wending our way through the forests and across streams, past native corrals, here and there a rancho and grazing cattle, to the banks of a little rivulet, where we had breakfast. Then we kept on, and late in the afternoon reached a rancho near the stone. There it was that I became acquainted with a native bed—one of those built up things in a native hut—over which was thrown a dried skin. It is about as comfortable and yielding as a block of granite. Our experience in that rancho I shall never forget. Mr. Hübsche took the inner side of our luxuriant couch. I had the privilege of sleeping on the outside. The bed consisted of a dried skin under us. They had visitors at that rancho, and they climbed up the ladder and slept above us. The people up in that loft—the whole place wasn't twelve by twelve—were intensely sociable, and smoked after they had retired. Then the old lady and gentleman went into their apartment, which was on our floor. It was the ground floor—literally so, as the floor was earthen. Of course there were some children and a few dogs. Fourteen of us slept in that small rancho that night, and it will be safe to say that there was great sociability and little stiffness. It wasn't much of a night to talk about, but all things have an ending, and at the first pencillings of dawn we were up and out. We then had coffee and, led by a practico or guide, who by the same token was a son of the household, we set off for the famous painted stone.

It was a huge boulder, and various inscriptions were cut in its side. I made a series of photographs; then we returned to the rancho, had some breakfast, said good-by to the family, and started on the return. That trip through the forest was pleasant and instructive. My companion was a profound botanist, and was there on a botanical trip. He knew all the orchids by name and all about them. The woods were full of them, and many of them were new and strange plants to me. We pursued our way, leisurely chatting about a thousand and one

things. He had had endless experience in Brazil, along that mighty stream, the Amazon. About midday we reached a stretch of table land where the natives were burning off the grass to enrich the soil. When we got on it the prospect wasn't pleasant, for the prairie was on fire in nearly every direction ahead of us. It was in no sense a serious fire, save that the grass was burning towards us and there was a great deal of smoke. The grass was but short. We took in the situation at once, picked out a place where the fire seemed to be weakest, and rode for it. When getting into the thick of it, for a few seconds it was hot and stifling, but we got through not much the worse for it, nor were our animals damaged. At high noon it was rather warmish; the temperature indicated by one of my travelling thermometers was 118°.

We got back to David that night thoroughly tired out, but after a most enjoyable experience. It took us a day or two to pull ourselves together, when we went off on a trip of another kind. We engaged a large bungo or canoe to take us down the lagoon over the arms of the sea, to a point near a weathered mountain. On our way through the lagoon we had a small adventure—and it might have been a very large one. We came upon a large shark that was sunning himself, and the way he turned up the water was astonishing. He passed under our boat, and had we been upset, there is no knowing what might have happened. We landed on a pretty island for breakfast. Then, late in the afternoon, we went up an interior lagoon, when our boatman steered for the shore. We passed through a lot of mangroves, stepped out on the bank, and buried in that dense jungle we found two ranchos. There we passed the night. The early part of it was made somewhat exciting by a number of scorpions, that dropped from the roof to the floor. Now scorpions are in no sense companionable; in fact, they have business ends at both terminals. The scorpion is a lobster in miniature, with this difference, that while the lobster can only bite in front, the scorpion can bite in front and sting with his tail. Having evicted the

scorpions we made a fairish night of it, and then started away inland across more savannas, noting the geology of the country and the like. We saw many things that recalled what Humboldt had referred to as the fearful cataclysm that had wrought such destruction in Colombia in early days.

The mountain seemed to be farther off and farther off, and at last getting to a small native settlement, we decided that time would not permit of our going there. The atmosphere was so clear that it seemed near by, and the guide, in the hope of extracting more money, lied with a fluency that would have been absolutely admirable had we not been the intended victims of his deceit. We spent some hours at that point photographing the natives in their houses, and got back to our boat and stood down towards the open sea. We made the island called *Isla de los Muertos*. I was particularly anxious to see this island, as I was told that on it there was a seam of coal. It was supposed to be haunted, and there were wild pigs there and other interesting things. We found the seam of coal with a strata of clay above it, and brought away some specimens. Some of the latter I sent to the late Prof. Spencer Baird, then secretary of the Smithsonian in Washington.

Apropos of the coal I shall cite the following:*

"Messrs. Whiting and Schuman, in their report in 1851, on the coal formation of the Island of Muerto, near David in Chiriqui, say they found monuments and columns covered with hieroglyphics similar to those discovered by Stephens in Yucatan."

The majority of the natives in that part of the country are Indians. A custom obtains among the women that I believe is peculiar to that part of the country. This is the peculiar way that they have of pointing their teeth. After their teeth are fully developed they are chipped away from a central point in each tooth to its upper edge, and what remains is a V-shaped piece with a point below. The corresponding tooth is chipped away in the

* "Antiquities and Ethnology of South America." London, 1880.

same manner, and when in apposition the teeth look like a couple of white saws placed teeth to teeth. It is a practice peculiar to the women, and is done by them for ornamentation.

Ap[ro]pos of another tribe of Indians in a distant part of Colombia I shall cite Holton,* who says: "One curious custom of the Goajiros I suspect may have extended to other tribes. A maternal uncle was counted a nearer relative than the father. The reason given by one of them was this: 'The child of a man's wife may be his or it may not; but beyond a peradventure the son of the daughter of his mother must be his nephew.' I am inclined to think that in some nations of South American Indians, not only property, but also crowns, have descended according to this very unconfiding law."

The reasoning of the Brazilian Indian under trying circumstances was as follows: He was going through a piece of forest that bore a bad reputation, and he said: "San Juan es muy bueno. San José tambien. El diablo no es tan mal muchachito." This literally translated reads as follows: "St. John is very good, and so is St. Joseph." Then there was a pause, and, having appeased his titular saints, he said: "The devil is not a bad little fellow." This man was trading on both sides of the market.

* "New Granada;" Holton, New York.

CHAPTER XXIII.

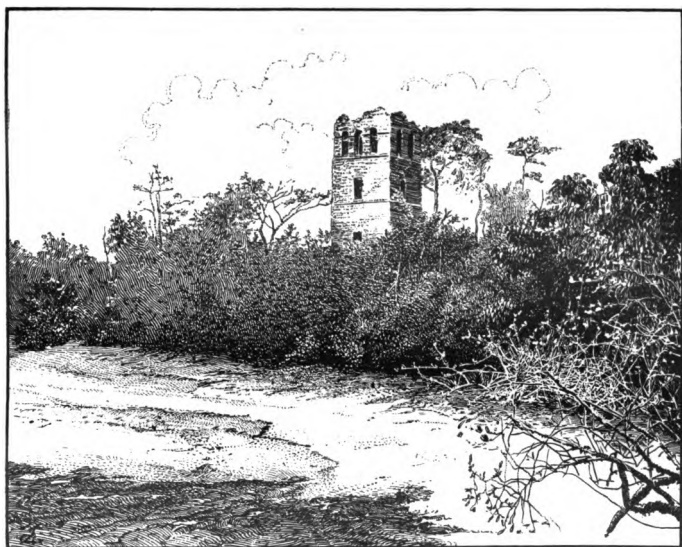
A SANCOCHO—EDUCATION ON THE ISTHMUS—FIRES IN PANAMA AND COLON—THE PANAMA CAFÉS—COLOMBIAN ETIQUETTE—YELLOW FEVER AMONG THE CONSULAR CORPS.

A SANCOCHO is an appetizing dish; it contains a little of everything, and in that respect it bears a strong resemblance to this chapter.

Education on the Isthmus is largely in the hands of the clergy to-day, and under the new laws just promulgated the Church practically has control of the general schools. There is a ladies' college in Panama known under the name of Esperanza College. The teachers are Americans and Canadians.* The principal has had a vast deal of experience, and in her able hands the college has been doing noble work. It is absolutely non-sectarian. The work that has been done there for the last seven years must exert a wonderful influence on the future of the State of Panama. The young girls trained there have received the soundest of educations, as understood among English-speaking people. To my mind it is quite the equivalent of missionary work of the best kind, in that it is eminently practical. The girls of to-day will be the mothers of the next generation, and in their home influence will bring to bear all the excellent training received in Esperanza College. If there is a bright and cheery outlook on the Isthmus, and one full of hope for the future, it will result from the noble work done by these ladies.

In referring to the orchids of the department of Chiriqui, I omitted to make reference to a beautiful

* "Encyclopædia Britannica," Ed. 1885.



**TOWER OF CATHEDRAL OF ST. ANASTASIUS, OLD PANAMA ;
FIFTEENTH CENTURY.**

flower, that of the Holy Ghost. This plant belongs to the orchid family, although its roots are planted in the ground, and it obtains its nourishment there, instead of being a parasite on a tree. The plant may briefly be described by stating that it bears a strong resemblance to the hollyhock before the flower is developed. There is a fleshy stalk, growing from two to three feet high and what looks like green capsules at right angles to it. These vary in size and number according to the age of the plant. As these pods approach maturity they lose their green color and little by little take on a dull alabaster white. Their petals compose the flower. When quite mature this opens and the upper petal flies up, and within is a chapel of alabaster in miniature, and in the upper part, back, a dove with drooping wings. The resemblance is perfect and it is from the dove that the name is taken, the Flower of the Holy Ghost. In some of the plants the dove's beak is tipped with crimson. The dove-like form is produced by the stamens and pistils. This pretty flower is described at length in Otis' book.* While hundreds and thousands of specimens have been sent off to foreign countries and placed in hot houses, I know of but two instances where it has flowered off the Isthmus.

The Isthmus of Panama in the past was noted for its magnificent roses. As far as I know there are but one or two of these rose trees remaining there. One of the two that I refer to is within the grounds of the late Dr. Pachecho. The roses are of wondrous beauty and perfect fragrance. In temperate climes the plant would be a bush, but there, in that wealth of sunshine and moisture, it develops into a young tree, as thick through, in some places, as the wrist of a man.

A careless and unobservant traveller, writing on the tropics, has said: "The birds are without song and the flowers without odor." If ever there was a gratuitous libel it is this. The flowers within the tropics are noted for their wonderful fragrance, and it may not be known

*"The Isthmus of Panama;" Otis, New York.

that even the orchid family, which furnishes the most wonderful of flowers, at night exhales a delightful perfume. It is quite true that during the day these plants are devoid of it. As to the second allegation, that the birds are without song, I must say that that good man probably saw no other bird than the turkey buzzard. The birds in the tropics are noted for their plumage,—some of the most gorgeous are found there, and they are as full of song as birds elsewhere. I have never seen that quotation used, without thinking that it is possible for an able man to travel far, learn little, and know less about his surroundings.

Etiquette in Colombia is largely the reverse of everything that obtains with the Anglo-Saxon races. Let us say one arrives in Panama. According to the etiquette of the place, which is the same as that in Spain, he sends his cards to such families as he wishes to have call on him. Then within a few days they make the call. The first call is *de rigueur*, but the question of the second stands upon the same footing as with us. In addition to the P.P.C. cards when leaving, it is customary to insert a brief notice in the local paper, under the heading "*Despedida*." This is a sort of general farewell, in which the individual places himself at the disposal of his friends while abroad.

On the Isthmus, as in other Spanish countries visited by me, there is but little informal calling; for it will be safe to say that unless you are intimately acquainted in the house an informal visit would not be considered strictly in good taste. It is customary to say during the day that you will call during the evening. This gives the ladies of the house the time that all Spanish women—and the majority of others—deem so necessary for getting ready. Of course, among the limited foreign circles in such places the calling is as with us.

Let us say that we are going to call upon somebody. We are ushered into a parlor nicely furnished. In the centre of the room there is a table and on either side of it, facing inwards, are two rows of rocking chairs. In these the guests sit and rock while chatting. As

other guests come in they join the row, and you will have six or eight chatting away as merrily as possible and rocking vigorously. It is somewhat a novel sight at first, but that arrangement of rocking chairs is not peculiar to the Isthmus; I have noticed it time and time again in Spanish countries. It takes foreigners a very long time to acquire this essentially Spanish custom. The idea of making a formal call and rocking seems inconsistent, and the astonishment of some foreigners is plain.

The hospitality is most pleasing, and the Colombians, in keeping with the same class in Porto-Rico, Mexico, and Spain, have charming manners and are the most gracious and affable of people. I can best convey my idea by saying that it is French politeness of the best kind somewhat accentuated.

A hint to one class of my readers. If a young man calls at a house where there are daughters, more than twice, and he is single, it may lead to some talk; if he calls two or three times more the family may think that his intentions are serious, and some friend of the family would be fully justified in asking what his intentions are. This sort of knowledge has a decidedly chilling effect upon many young men, whose intentions though pure, are not matrimonial. As my readers will gather from this statement, it discourages general visiting.

The Colombians are very fond of music, singing and dancing; and their balls are most enjoyable. They dance quadrilles in a manner somewhat different from the American style and more like the English. They have slow time polkas, dance to the most dreamy of music, and they really dance *divinamente*, or divinely. More graceful people, both male and female, it would be impossible to find, and as a lady once said to me, in speaking of her daughter, a beautiful girl, "It is in the blood."

A dance of which outsiders have but little, if any, knowledge, is the *danzita*. Perhaps I can best describe it by saying that it resembles a Circassian circle. As many as fifty or sixty couples dance to the music of a

dreamy waltz in a large room, and then, at a given note of the music, they stop and dance vis-a-vis with the couple next to them; then, when the time changes, they again go on with the slow-time waltz. It is a very pretty sight. The music is essentially Spanish, and on the Isthmus a guitar-like instrument is considered indispensable in giving the time.

Mourning in some of the Spanish countries is the dreariest sort of apparel. Despite the intense heat and moisture they will cover themselves with the blackest of black and wear it almost interminably, say for one to two years. The injury done the upper classes by this practice, looking at it from a medical standpoint, is very great. It is also customary to cover the frames of the pictures in the house with mourning bows, and to throw all the gloom and oppressiveness possible into their surroundings. In some of the Spanish West Indies the young people of the house, when they have lost a father or mother, are barely seen out of doors for twelve months, and the inner blinds of their houses are kept closed day and night.

The native jewelers of the Isthmus have made some fame for themselves by their novel creations in gold and pearls. They make watch chains and neck chains of the finest gold threads, which are beautifully woven together and are deemed great curios. Some of the native jewelry, in which the pearls of the gulf are worked up in gold settings, is very attractive and chaste. The lower class of natives are very fond of wearing gold coins both for necklaces and as earrings. To see a native woman, almost as black as night, in full dress, is a sight. The pollera is an ample garment, covering the upper part of their person. It is low necked—very much so—and from its upper portion, towards the waist, there are from three to four flounces—that is, they would be called flounces if they were lower down, only they don't put them at that end. Around their ample black necks they wear these chains of coins and pearls, oftentimes of considerable value, with ear-rings of native manufacture, and they very often have flowers in their hair. At times

they wear a mantilla. The dress generally is of some white fabric. Their splay feet are thrust into slippers of the most violent colors—pink and green or yellow. Stockings are not deemed a necessary part of their wearing apparel. You will see these people dressed in this way, trudging to church, with Panama hats on their heads. If a slight tropical breeze is blowing, their skirts flutter, showing their gorgeous slippers and feet bare of stockings. It is a matter of general belief that the dress is the sole garment they have on, and I think the general belief in this matter is accurate.

While it is quite true that the state of Panama has a board of health, so called, there is no sanitary police force, that is, in the pay of the government. I have already referred to the gallinazos or turkey buzzards, which probably furnished that rash man with the statement that the birds are without song. These birds are as large as a good sized hen. They are as black as night and are noteworthy objects with all strangers. They may be seen perched on the trees and on the housetops. They form the corps of sanitary police, and doubtless are most valuable agents, from a medical point of view. There is a king bird among the gallinazos, and he has a red head instead of a black one. His sway among his fellows is something astonishing. Ordinarily these birds will fight vigorously over carrion, which is their favorite diet. They will pick dead animals clean in an incredibly short time—fighting, struggling, tearing away at anything they can get off the bones. If a king-bird wants food, and lights among them, they will draw off to a distance with a deference that is simply wonderful. I had read of this time and time again, and I have seen it. On the wing the gallinazos are probably the most graceful of birds; they fly many hundred feet from the earth, and Darwin, in his admirable book, refers to the great beauty of their flight, and is of the opinion that it is connected with their mating.*

The Isthmus of Panama is noted for its alligators, and

* "Darwin's Voyages;" London.

there are big ones and little ones. Many of the old ones are from twelve to sixteen feet long, and they are dangerous to a degree. At the time of Ojeadas' settlement in the Darien they were as abundant as now, and an account is giving in Washington Irving's "Voyages of the Early Spanish Discoverers" of a horse which, while crossing a stream in the Darien, was dragged under by a huge alligator. They are on both sides of the Isthmus. Twice while making boat trips in the Bay of Panama, I have seen large alligators two or three miles from the shore. Their method of swimming and their spiny backs have probably given rise to the many stories regarding sea-serpents.

In the fall of the year a lot of pigmy Indians reach Panama from the interior. They do not speak Spanish and are led by a man who seems to be their chief. They go about making their purchases and then disappear until the following year. It is said that these men live hundreds of miles away in the interior, and while they nominally are Colombians, they acknowledge no sovereignty save that of their chiefs. Certain it is that no control is attempted, and certain it is also that they will allow no white man to penetrate into their country. These Indians cause one much speculation. They are short, stumpy and strong; they have long black hair, black eyes, and a bronze skin. I never was able to obtain any satisfactory information regarding these people or their customs or habits.

On the Isthmus of Panama, as in Cuba and in the mother country, one finds a cock-pit with the same absolute certainty that he finds a lot of churches. In Spanish America bull-teasings and cock-fights are the pastimes. In Spain it is cock-fighting and bull-fights. A Spanish bull-fight, properly so called, is best read of. I never saw but one and I never expect to see another, for of all the barbarous, cruel things, it is the worst. Any reader desirous of obtaining a clear idea of bull-fighting in Spain, I would recommend to read Gauthier's admirable book.*

* "Voyage en Espagne;" Gauthier, Paris, 1840.

Cock-fights at the pit were held on Sunday morning. A gentleman well known on the Isthmus is very fond of that pastime, and he has been known to wager as much as a thousand dollars on a bird. Once, while on a flying visit to the Island of Toboga, after having breakfasted with a medical friend, a Cuban, I saw a cock-fight. My confrère doffed his professional coat, put on a light blouse and covered his head with a Panama hat. His bird was brought out, and he looked that cock over in the same minute way and with much the same satisfaction that a mother does her first born. He put the bird under his arm and went off to the village of Restingue. My knowledge of cock-fights was nil, but I observed that the doctor's bird had only one serviceable eye. This seemed to impair his value from my standpoint, but I was told that he could fight just as well with one eye as two. I was accompanied by a friend from the city and we became interested spectators. While I should have preferred a two-eyed bird, deference to my confrère led to my putting up a peso on his monocular specimen. We will call him the bird of the first part. The bird of the second part was a lively, gamy fellow. Both had sharpened spurs. I felt that my peso was gone from the start. Now a cock-fight is conducted largely in this wise:

The proprietors of the birds take them in their hands and sway them to and fro, and then let them go. The birds are born fighters, and the savage way in which they attack each other is simply astonishing. Soon all is blood and feathers.

Our bird was the heavier and was a pure white. The other fellow was of the true game-cock breed, and he punished our bird severely. It goes without saying that half the village turned out. The sympathy of the crowd was with the bird on which they had bet their money. If the supplications to their titular saints in church are at all in proportion to the earnestness of their remarks on this occasion, I should believe the whole of that lot saved, for they called on every saint in the calendar and swore loudly by sacred names. Sometimes they

would drop down on their hands and knees to get a glimpse of the fight. When their bird succeeded in using his spur, up would go a cheer from their side; and when their bird was punished we felt correspondingly jubilant. The fighting was fierce, and judging from the faces of all present, one would have fancied that the greatest of international questions was being settled on the spot. The fight went on and on, and at last our bird began to give visible tokens of failure; for the gamy little cock of the second part seemed to have hammered him all to pieces. Suddenly our one-eyed friend got in a savage blow, driving one of his spurs into the neck of the other fellow. This took the fight out of him completely. It is customary in those countries as in other barbaric centres, to allow the birds to "fight to a finish." I presume that is what John L. Sullivan would call it. At last the small bird couldn't stand up. His head was a mass of blood. His owner then proceeded to re-invigorate him. He mixed a little brandy and water and took a mouthful of it, when he passed the gory head of the bird into his mouth. This seemed to me to betoken considerable affection, and it was at once novel and interesting. Then taking more brandy and water in his mouth he sprayed his bird vigorously with it. After a time the bird could just totter about, and then they were allowed to go at each other again. The little fellow became sufficiently invigorated to give the *coup de grace* to the white bird, and I handed over my peso. That was my first and last cock-fight. It is a barbarous pastime, and I don't recommend it to any one else, but simply incorporate an account of it here because it is one of the national amusements both in Spain and Central America.

Following the advent of the canalers a great many Parisian customs were grafted upon the Isthmus, among others the introduction of neat little tables that were placed in front of the cafés in the afternoon and evening, where natives and foreigners could have their cocktail or their absinthe and water. To one not familiar with France or parts of Spanish America, sitting in the open,

uncovered, and having drinks, seems somewhat strange. It was also customary to serve ices in the main plaza, and it was quite the correct thing to take one's lady friends there to have an ice. During the grand moonlight nights of the dry season it was a very pleasant way of passing a few minutes.

The city of Panama figures in history for its fires. In 1737 modern Panama was swept. Then it was that the Jesuit College was burned and the churches of San Francisco and Santo Domingo. In 1878 there was a big fire there, and in 1884 I saw a very large one, that destroyed dozens of houses and upwards of a million dollars' worth of buildings and stock. The city of Colon was destroyed by fire on the 31st day of March, 1885, resulting in a loss of twelve millions of dollars, when great damage was done the Panama Railroad and a huge loss was inflicted upon the Panama Canal Company, that had at that time many large and valuable buildings and storehouses in the city, and they were all swept away. The loss to the railroad practically was a loss to the Canal Company, for the road was theirs. The damage to canal interests was over one million of dollars, and that at a very modest estimate. I am fully aware of the fact that the company claimed to have lost nothing, and if their storehouses, private residences, offices, machinery, and railroad plant, cost nothing, I quite agree with them.

The old bells of the city of Panama will probably afford new-comers more distraction than they will care for. They ring at all seasons—or rather they are hammered with bars of iron, and as all the churches have bells of different types, when well beaten, they give forth different notes. I don't know what kind of music it is supposed to be, but it may be Wagnerian. An intimate friend of mine, then and now on the Isthmus, who is famous for his *bon mots*, summarized their ringing and the odors of Panama by saying, "It is a city of damnable sounds and abominable smells."

Panama has no water supply. Water is carried about there in carts and sold by the bucketful. If it were pure water it would be less objectionable, but it is furnished

from the old wells built on the outskirts of the city upwards of two hundred years ago by the Spaniards. I have referred to Don Nicanor Obarrio's concession for burying the dead. In a little ravine adjoining that much used cemetery there are three old wells. They are within 100 feet of the cemetery, and being many feet below they naturally receive its drainage. Strange and incredible as it may seem, he sells that water to the aquadores, or watermen, and they in turn sell it in the city. This custom was denounced both by the late Mr. John Stiven and myself; and the then president of Panama, a light colored mulatto, Don Damaso Cervera, promised that when that new cemetery was fairly under way this abuse should stop. It didn't stop, and people drink cemetery drainage and expect to be well.

I see by recent news from the Isthmus, that it is promised a system of water-works. I can recollect as far back as 1884 when the Isthmus was busy to a degree and bright with hope, because water-works were promised then. In fact, I wrote some editorial matter for the *Star and Herald* regarding them, but nothing ever came of it, and now that M. de Lesseps' scheme is in a moribund condition and business on the Isthmus is depressed, I, for one, have little or no faith in the statement that they will build water-works.

While yellow fever has swept off hundreds and thousands, its inroad upon the consular corps has been very marked, the more so owing to the prominence of the victims. The first cases that I recall were those of the French consul, M. Sempé, and his wife. He was a new-comer, and he died one day of yellow fever, and his wife died the next. They had been married but three months, and she, poor girl, was buried in her wedding dress. They occupy one grave in the foreign cemetery. Later the *chancelier* of the same consulate died, and so did his wife. His successor and his wife also died. Within five months of each other last year, two Italian consuls had been swept away, and another French consul. The Spanish consul and his wife both sickened with yellow fever, and when she recovered she found

that her husband had died and been buried. I can recall two cases in the American consulate. The first died, and the second was given up, but thanks to a good constitution and abstemious habits, he recovered. A servant that was in attendance on one of these cases died.

Out in the cemetery are numbers of the consular corps of former days. In the British consulate the burial record in the foreign cemetery is kept. The first entry was on the 14th of June, 1826, and it records the death of Mr. Lemesurier, one of the secretaries to Mr. Dawkins' Commission to the historic Panama Congress. The cause of his death was stated to be "fever of the country." On the 14th of July, or one month later, is another record. It is the death of a Mr. Childers, likewise a secretary of Mr. Dawkins' British Commission to the Isthmus of Panama, from yellow fever. I have examined that record book time and time again, and found it full of information to the student of yellow fever. Yellow fever is a part and parcel of that place, and owing to the absolute want of care, it will remain so. Quite recently, in a conversation with a Consul-General of Great Britain on a visit to this city, we chatted over Panama, when he said: "It is customary for the new consul to send his predecessor home." He didn't say how, but he meant in a coffin. The Isthmus is well known as the "Grave of the European."

Readers who may feel inclined to look into the literature on Panama, will find much instruction in Dr. Seemann's book.*

* "History of the Isthmus of Panama," by Dr. Berthold Seemann. Panama, 1867.

CHAPTER XXIV.

A GLIMPSE OF THE EARLY HISTORY OF THE ISTHMUS— FORMER CANAL SCHEMES.

As the matters discussed in this book may give rise to a great deal of criticism, I think it well to anticipate my chapter on the Panama Canal by giving, at this point, a brief resumé of such work on the Isthmus from the earliest times. I take this precaution simply to throw safeguards around the statements of facts that will be found in this volume. In citing from the various authorities it is possible that in one or two places there may be a slight repetition, but the consensus of the whole will be in perfect harmony with my treatment of the question.

“The Isthmus of Panama is that portion of the narrow ridge of mountainous country connecting Central and South America, which is bounded on the west by the frontier of Costa Rica, and on the east by the surveyed interoceanic route from the Bay of Caledonia on the north, to the Gulf of San Miguel on the south or Pacific side.

“The State of Panama contains the provinces of Panama, Azuero, Chiriqui and Veraguas. The Isthmus throughout is traversed by a chain of mountains. The highest peak is Pichaco, 7,200 feet high, in the west. The area of the State of Panama is 29,756 square miles; population, 220,542. . . . There are many rivers in the State, and they fall into both oceans. The climate is unhealthy, except in the interior and on the flanks of the mountains. . . . The summit of the railway is 250 feet above the level of the sea, and its average amount of goods traffic yearly is 60,000 tons, realizing £11,000,000 sterling. . . . Panama is chiefly important, however, as



SOLE RESIDENCE AT OLD PANAMA.

the Pacific terminus of the Panama railway. Population of Panama City 18,390. The former city of Panama, the seat of the Spanish colonial government, established in 1518, stood six miles northeast of the port of Panama. It is now a heap of ruins."*

According to the authority just cited, the traffic realizes £11,000,000, or over fifty millions of dollars. The error is manifest. It is estimated that the value of goods passing over the railroad is some fifty millions of dollars per annum. The traffic receipts of the Panama Railroad, as I have stated elsewhere, are anywhere from two to a trifle over three millions of dollars.

I have already dwelt upon the number of islands in the Gulf of Panama. Some of these possess great value if considered from a strategic standpoint. During my residence on the Isthmus, time and again officers from the foreign men-of-war have made surveys in the gulf, with a view of ascertaining the depth of water around some of the important islands. I was told by the proprietor of one important island in the gulf that some delicate *pour parleurs* had been made on behalf of a continental government, with a view of transferring an important island to that power, really to be used as a coaling station, the sale to be made to a private individual, who would act for his government. The power referred to was neither American, English or French.

"Beyond the peninsula of Azuero the coast of the Isthmus is broken by the Bay of Montijo, which contains several islands. The largest of these, Coiba, has an area of 180 square miles and contains the port of Damas."† I think it well to refer specifically to this island for a variety of reasons. It is one of the largest islands in the Pacific, well watered, rich in woods, and affording excellent anchorage close in shore.‡

By consulting the authority that I have referred to here much valuable and instructive information will be

* Chambers's Encyclopædia, Vol. VII. ed. 1868.

† The American Cyclopædia, Vol. XIII. ed. 1879.

‡ The "Pacific Pilot," Imrie, London.

obtained regarding this island. A few years ago, before the government of Colombia made its first transfer of land to the Canal Company, a commission visited that island. It was sent out by the Canal Company from France; and its chief was M. Harel, a brother-in-law of Count Ferdinand de Lesseps. Among many others in the commission, was Lieutenant Lalanne and Dr. Chambon of the French navy. It would seem that they had been sent to the Isthmus on a species of secret commission to locate lands, but really with a view of securing the large and important island of Coiba.

Secrets, when in many hands, are like water in a sieve—likely to be lost. At a dinner given at the house of the then Superior Agent of the Canal Company, the plan was discussed—and the idea of securing Coiba as a *point d'appui* for M. de Lesseps' company, of establishing thereon a French colony, was fully talked over. M. de Lesseps' commission, instead of maintaining rigid silence, talked. Within four and twenty hours a newspaper letter was written for *The Gazette* (Montreal) and a cablegram sent to the Associated Press in New York. The letter to the Montreal paper was mine; the cablegram to the Associated Press was from its agent there. M. de Lesseps denied the matter inside of six and twenty hours. He seems to live in a perfect atmosphere of contradictions and reiterations. Despite the fact that he had no ulterior purposes to serve, that commission, fully equipped, paid a visit to the Island of Coiba. From there they proceeded to the department of Chiriqui, and, after an absence of weeks, returned to the Isthmus, and thence to France, to submit their report to the Canal Company. The correspondents who furnished the information to the world were not decorated. Despite M. de Lesseps' statement, his company tried to secure the island as a part of the concession, but the scheme aborted, owing to the fact that certain Colombians had proprietary rights there. I have skirted the shores of Coiba, and it is a large, attractive island, well wooded, the highest point, writing from memory, being some two hundred and odd feet. It is an island that could be used

in the most effective way by any power, if the Panama Canal ever becomes a fact.

"In 1698 William Patterson founded a Scotch colony at Puerto Escoces (Scotch Port) in Caledonia Bay."

As stated "Panama was founded in 1518 by Pedrarias Davila" about six miles northeast of the present site, "to which it was transferred after the destruction of the old site by the buccaneers in 1670. It has suffered much from disastrous fires: in 1737, when it was almost entirely destroyed, and 1864, 1870 and 1874, the losses for the last year amounting to \$1,000,000." *

"Panama has a large commerce, but most of it is due to the transit trade."

The Isthmus of Panama has derived its chief importance from its supposed facilities for the construction of an interoceanic canal. Since 1528 the idea has been mooted of opening a canal between the river Chagres (falling into the Caribbean Sea at the town of the same name. The Chagres which falls into the Caribbean a little west of Limon Bay, is navigable for bungoes for about thirty miles) and the Grande, falling into the Pacific near Panama, or the Trinidad and Camito.

"The route was examined by two Flemish engineers under the orders of Philip II., but for political reasons the king ordered that no one should revive the subject under the penalty of death." †

Canals seem to have been as dangerous themes to handle in those days as in ours, but it is a trifle startling to find that the penalty of death hung over a man who gave the subject of canalization publicity. Associations for the advancement of science certainly were not popular under the rule of that iron-handed king.

"The Isthmus, in a wide sense of the word, forms a State, one of the United States of Colombia, extending from the frontier of Costa Rica to that of the State of Cauca and containing six departments—Coclé, Colon,

* The American Cyclopædia, Vol. XIII. 1879. See also "History of Isthmus of Panama," Seemann, Panama.

† Ibidem.

Chiriqui, Los Santos, Panama and Veraguas. Population of State 285,000. . . . Population of Panama City 18,378, mostly negroes or mulattoes. . . . The Isthmus of Panama was formerly called the Isthmus of Darien."*

A standard authority thus describes modern Panama: "In the sixteenth and seventeenth centuries Panama was, next to Carthagena, the strongest fortress in South America, but its massive granite ramparts, constructed by Alfonzo Mercado de Villacorte (1673), in some places 40 feet high and 60 feet broad, were razed on the land side (where they separated the city proper from the suburbs of Santa Ana, Pueblo, Neuvo, and Arrabal) and allowed to fall into a ruinous condition towards the sea. . . . The Cathedral, built in 1760, is a spacious edifice, in the so-called Jesuit style, and its two lateral towers are the loftiest in Central America. It was restored in 1873-6, but the façade was destroyed and columns thrown down by the earthquake of September 7, 1882. . . .

"In the rainy season streams of water flow down the streets, but in the dry season the city is dependent on water brought in carts from Matasnillo, a distance of several miles, the only perennial wells which it possessed having been dried by the earthquakes of March, 1883. . . . Besides the Episcopal Seminary there exists a Sisters of Charity School and Ladies College, with teachers from the United States and Canada.

"In 1870 the population of Panama City (of a very varied origin) was 18,378; by 1880 it was 25,000, of whom about 5,000 were strangers.

"Panama (an Indian word, meaning abounding in fish) was founded in 1518 by Pedrarias Davila, and is the oldest European city in America, the older settlement at Santa Maria el Antigua near the Atrato having been abandoned and leaving no trace. Originally it was situated six or seven miles farther north on the left side of the Rio Algarrobo; but the former city, which was the great emporium for the gold and silver of Peru, and 'had eight monasteries, a cathedral and two churches, a

* Johnson's Universal Cyclopædia, Vol. VI. New York, 1887.

fine hospital, two hundred richly furnished houses, nearly five thousand of a humbler sort, a Genoese Chamber of Commerce, and two hundred warehouses, was after three weeks of rapine and murder, burned February 24, 1671, by Morgan's Buccaneers, who carried off one hundred and seventy-five loaded mules and more than six hundred prisoners.' (See 'Travels of Pedro de Cieza de Leon,' Hakluyt Society, 1864.) A new city was founded on the present site by Villacorte in 1673 Population State of Panama, 1870, was 221,052.

"A proposal to pierce the Isthmus of Darien was made as early as 1520 by Angel Saavedra. Cortez caused the Isthmus of Tehuantepec to be surveyed for the construction of a canal; and in 1550 Antonio Galvão suggested four different routes for such a scheme, one of them being across the Isthmus of Panama. In 1814 the Spanish Cortes ordered the Viceroy of New Spain to undertake the piercing of the Isthmus of Tehuantepec; but the War of Independence intervened, and, though a survey was made by General Obegoso in 1821 and José de Garny obtained a concession for a canal in 1842, nothing was accomplished. Bolivar, a president of Colombia, caused Messrs. Lloyd and Falmarc to study the Isthmus of Panama. Lloyd, whose paper was published in the 'Philosophical Transactions,' London, 1830, proposed to make only a railway from Panama to Chorrera to the Rio Trinidad (tributary of the Chagres), and to establish a port on the Bay of Limon. M. Napoleon Garella, sent out by the French government in 1843, advocated the construction of a sluiced canal. An American company, stimulated by the sudden increase of traffic across the Isthmus, caused by the discovery of gold in California, commenced in 1849 to construct a railway, and their engineers, Totten, and Trautwine, already known in connection with the canal (El Dique) from Carthagena to the Magdalena, managed, in spite of the extreme difficulty of procuring labor, to complete the work in January, 1855. Meanwhile the question of an inter-oceanic canal was not lost sight of; and in 1875 it came up for discussion in the *Congrès des Sciences Geograph-*

iques at Paris. A society under the control of General Türr was formed for prosecuting the necessary explorations; and Lieutenant Wyse, assisted by Celler, A. Reclus Bixio, etc., was sent out to the Isthmus in 1876. In 1878, the Colombian government granted the society known as the Civil International Interoceanic Canal Society, the exclusive privilege of constructing a canal between the two oceans through the Colombian territory; but at the same time the ports and canal were neutralized. In 1879, M. de Lesseps took the matter up, and the first meeting of his company was held in 1881. The capital necessary for the 'Company of the Interoceanic Canal of Panama,' as it is called, was stated at 600,000,000 francs, the estimated cost of excavation being 430,000,000, that of the trenches and weirs to take fresh water to the sea, 46,000,000, and that of the dock and tide gates on the Pacific side, 36,000,000. The Panama Canal (railway?) was bought for \$20,000,000. The contractors, Couvreux and Hersent, began operations in October of the same year. Meanwhile the United States government proposed to make a treaty with Colombia by which it was to be free to establish forts, arsenals and naval stations on the Isthmus of Panama, though no forces were to be maintained during peace. But the British government objected to any such arrangement."*

I wish to call attention anew to General Türr's society, formed, following the *Congrès de Science Géographiques*, for prosecuting the necessary explorations, and to the fact that his brother-in-law, Lieut. Lucien Napoleon Bonaparte Wyse, took command of that expedition. The latter, in 1886, issued a book in Paris under the title of *Le Canal de Panama*. It is a voluminous tome, bound in half leather and gilt. I have a copy by me. Lieut. Lucien Napoleon Bonaparte Wyse, in a very lengthy preface, states his grievance, which is largely as follows: He it was who made the remarkable survey that has been described in Lieutenant Sullivan's book;† a

* *Encyclopædia Britannica*, Vol. XVIII. ed. 1885.

† "Problem of Interoceanic Communication," etc., Washington.

survey made for about two-thirds the distance across the Isthmus and projecting beyond that point, by some occult procedure unknown to the vulgar. This fact, however, in no wise interfered with his making an estimate of the value of the canal, even to within ten per cent. of its cost! Lieutenant Wyse in the preface, does not seek for himself any glory on this terrestrial globe, but he does feel that it is due his children that their father's name should be associated with that great enterprise. As Lieut. Lucien Napoleon Bonaparte Wyse's book has appeared simply in French, and not in English, it affords me great pleasure to add my little share in allotting to him all the credit that is due him. Personally, I shouldn't have the slightest ambition to have my name connected with an enterprise of that sort, one that will result in the most hopeless sort of failure ever known.

In the body of his book Lieut. Lucien Napoleon Bonaparte Wyse deems the work on the canal of an extravagant nature, and in the lamest way possible explains his connection with certain things financial. The reader must never lose sight of the fact, that the Lieutenant went out to the Isthmus in command of the first expedition, to which I have referred. He was sent out to make that survey *de novo*. At that packed Congress in Paris in 1879 his plan was to be adopted—and it was adopted. Subsequently the concession was sold to the Canal Company for ten millions of francs, or two millions of dollars. Perhaps it has not occurred to Lieut. Lucien Napoleon Bonaparte Wyse that his surveys, which, according to the late Admiral Bedford, F. C. Pim, R.N., failed to excite universal admiration, were in themselves the first, of many steps in the dark made by the Panama Canal Company.

There is another, and to me exceedingly instructive fact in connection with the founders' shares in the Canal Company. It is generally the custom, when people receive benefactions in the shape of founders' shares—which cost them nothing but the effort of writing a polite note and thanking the company for them—if they

are bonanzas, to hold them. They, by the way, wouldn't be bad things to leave to one's children. Since 1884 the Panama Canal Company have known the canal practically was impossible; but with a feeling of brotherly love, and with the idea of benefitting others by the sale to them of that which cost the venders nothing, they broke their founders' shares up into sections and placed them upon the Paris Bourse. An unsuspecting public, to use a homely phrase, caught them up "like hot cakes," and thus the founders of this "great and disinterested work of civilization" netted some millions of dollars. In the near future the holders of fractions of the founders' shares will have the peculiar consolation of knowing that they hold the shares and likewise the experience, and the founders hold their cash. Perhaps Lieut. Lucien Napoleon Bonaparte Wyse, when he writes a new book on the Panama Canal, will be good enough to explain the wherefore of this.

In speaking of Panama, Whittaker states that "the prosperity of the State depends very largely upon its favorable geographical position, which facilitates transit from the Atlantic to the Pacific. The distance from Limon Bay to Panama on the latter is only thirty-five miles, and the highest elevation of the water-shed does not exceed 278 feet. A railway has joined the two oceans since 1855, and a ship canal is under construction since 1881, by a French company founded by F. de Lesseps. The canal will have a total length of forty-seven miles, an average depth of twenty-eight feet, a minimum width of seventy-two feet. Huge flood gates are required to regulate the tides, for while Colon, on the Atlantic, has a tide of only two feet; Panama, on the Pacific, has one of twenty feet. Up to the middle of 1885, eighteen million cubic yards of earth and rock had been removed out of an estimated total of one hundred and fifty-seven millions. M. de Lesseps, who inspected the works in 1886, accompanied by M. Rosseau, a government engineer, confidently announced the opening of the ship canal in 1892; he now says 1890. The cost, in 1879, was estimated at £41,700,000; and M. de Lesseps

asserts that the actual cost will not exceed £49,000,000. Twenty thousand men are employed upon this great work."*

In the above there are two errors. The distance from Limon Bay to Panama is given at thirty-five miles; it is more nearly forty-five. That "the highest elevation of the water-shed does not exceed 278 feet," is wrong. The lowest pass found in the hills by Colonel Totten was 238 feet, six inches, being that of the Panama Railroad at Culebra. There are hills in that vicinity towering hundreds of feet above the railroad. The crest of the hill adjoining the railway, on the left as you go to Panama, and just beyond the canal cut at Culebra, is some 500 feet above sea level.

Another authority † summarizes all the news down to January, 1888, when M. de Lesseps failed to obtain permission for his lottery loan. Hazell dwells upon the oft reiterated promises of M. de Lesseps to have the canal done and the contradiction of his forecasts by subsequent demands for more money.

"As far as I am concerned, I am firmly convinced that the construction of the canal at tide-level, according to the plans of M. de Lesseps for the Isthmus of Panama, is chimerical, if not absolutely impossible. Under any circumstances, if the canal ever becomes a reality, the enterprise itself as a source of profit will be nil."‡

In the fall of 1885, a work appeared, giving a great deal of information regarding the Panama Canal.§

"Across the Isthmus of Panama occurs, next to Nicaragua, the greatest depression yet found on the Isthmus, the summit level of the railroad being 287 feet above sea level. The route from Porto Bello or Chagres to Old or New Panama has been the established line of

* Whittaker's Almanac, London, 1888.

† Hazell's Encyclopædia, London.

‡ "Aperçu de Quelques Difficultés à Vaincre dans la Construction du Canal de Panama;" Paris, 1887.

§ "The Panama Canal;" Rodrigues, New York.

communication since 1653, nearly coeval with the first settlement in America. A survey was made in 1843 by the French engineer M. Garella *ingénieur-en-chef des mines*, of which an account is given in the document referred to, and of which the report was printed in the 'Journal of the Franklin Institute;' also in the French *Journal des Ponts et Chaussées* (1844). Mr. G. M. Totten, chief engineer of the Panama Railroad, subsequently made an estimate for a canal with locks, to cost from \$60,000,000 to \$115,000,000, according to the summit level adopted. The survey was renewed by the United States government, by Commander E. P. Lull, U. S. N., resulting in the location of a practicable line for an interoceanic ship-canal, twenty-six feet deep, from the Bay of Aspinwall on the Carribean Sea, to Panama on the Pacific.

"In 1879, Count Ferdinand de Lesseps made an appeal to the several nations to send delegates to a proposed congress to meet in Paris, to decide upon the route and the plan for an interoceanic canal between the Atlantic and Pacific Oceans through the American Isthmus. On May 15th of that year the congress met in Paris. The following countries were represented: Germany, England, Austria, Hungary, Belgium, China, Costa Rica, Spain, United States, United States of Colombia, Guatemala, Hawaii, Holland, Italy, Mexico, Nicaragua, Portugal, Norway, Russia, San Salvador, Sweden, Switzerland, France and the colonies of Algiers and Martinique. M. de Lesseps was elected president. The meetings of this congress continued from the 15th to the 29th of May. The congress was divided into commissions to investigate the several objects connected with the canal question, and information was furnished them by the several countries represented. On the last day of the meetings the following resolution was adopted by a vote of seventy-eight out of ninety-eight delegates: 'Congress believes that the cutting of an interoceanic canal, with a constant level, so desirable for the interests of commerce and navigation, is possible, and that this maritime canal, to meet the indispensable facilities

of access and utility which a passage of this kind should offer before all, shall be by way of Limon Bay to Panama.' The principal reasons for this decision are as follows, as given by Mr. F. M. Kelley in the *Indicator* (May 23, 1883): 'First, with the exception of the San Blas route, it is the shortest, being but forty-six miles long; second, it is the only feasible sea-level route without a tunnel; third, it has harbors at both termini, requiring but little or no improvements, easily reached on a wide, open sea; fourth, it has the Panama Railroad close at hand to deliver laborers, machinery, tools, and supplies of all kinds along the line where needed, at the lowest possible expense and in the quickest possible time; fifth, towed at the rate of five miles per hour, ships could pass through the Isthmus at Panama in ten hours, while at Nicaragua it would take about forty-five hours; sixth, for quickness and safety in passing the largest class of steam and sailing vessels, and the very much less cost of yearly maintenance, the Panama canal presents decided advantages over any long canal encumbered with numerous locks and artificial harbors, so liable to be destroyed by the floods and earthquakes of that country.

"Immediately after the adjournment of the congress a company was formed for building the canal—the Universal Interoceanic Canal Company, which was organized under the French law for the formation of corporations and co-partnerships, passed in July 24, 1867. According to this law, M. de Lesseps entered articles of incorporation and by-laws before notaries public, in Paris on the 20th of October of that year, which are now in existence and regulate the affairs of the company. These articles of incorporation are also in accordance with the requirements of the law of concession of May 18, 1878, granting certain privileges for the opening of an interoceanic canal through the Isthmus of Panama, as sanctioned by the government of the United States of Colombia. This concession was granted to Lieut. Lucien N. B. Wyse, as the representative of the 'International Civil Society of the Interoceanic Canal,' who

sold their rights and privileges to M. de Lesseps. Up to September, 1884, four subscriptions had been put upon the market, amounting to 536,350,000 francs, (\$107,270,000). The Canal Company bought the control of the Panama Railroad for \$17,000,000.

"The following general description of the canal is from a paper read before the Franklin Institute, October 22, 1884, by Charles Colné, secretary of the canal committee in New York: 'The canal commences at Colon (Aspinwall), running up to Gatun and to Dos Hermanos, in a very long curve, almost a straight line, starting at the sea-level in low lands, reaching Dos Hermanos, with an elevation of land to 20 feet in the gradual ascent, at a distance of nine and two-thirds miles from Colon. From Dos Hermanos to Frijole, a distance of seventeen and one-third miles from its mouth, the canal reaches the latter point at an elevation of 40 feet, with the exception of a hill between Bohio Soldado and Buena Vista, reaching a height of 165 feet. From Frijole to Mamei, a distance of twenty-four miles from the mouth, the line makes a bend, and reaches Mamei, with an average elevation of 50 feet, with intervening hills reaching to heights of 85, 100 and 118 feet. From Mamei to Matachin, twenty-seven miles from Colon, the canal makes another easy bend, the height of the land averaging 55 feet, excepting a hill near Matachin of 168 feet. The balance of the line to Panama is comparatively straight. From Matachin to Culebra, a distance of thirty-four miles, the land becomes more undulating, with a series of hills reaching altitudes from 100 to 240 feet, and at Culebra reaching the highest point on the line, 330 feet. From this altitude at Culebra the descent reaches to 30 feet at Rio Grande, a distance of thirty-seven miles from Colon. From Rio Grande to La Boca the line again runs through low lands from 30 feet to the level of the ocean, having reached the distance of forty-two miles from Colon. To reach the proper depth of water, dredging will be continued to a point near the islands of Perico, being a distance of forty-six miles from Colon. The two

ports, Colon and Panama, are to be improved, so as to make the entrance easy of access.

"The route in general follows that of the Panama Railroad. The dimensions of the canal are as follows: The breadth at the bottom is 22 to 24 metres (72 to 78 feet); the breadth at the surface of the water, 28 to 50 metres (92 to 164 feet); depth, $8\frac{1}{2}$ to 9 metres (28 to 29 $\frac{1}{2}$ feet). The curves on the canal are to have a minimum radius of 2,000 metres (6,560 feet). The greatest obstacle to be overcome on the Atlantic side, both in construction, maintenance and operation, is the Chagres River. It is a torrent of great and dangerous proportions at times during the rainy season, which continues during about eight months of the year; the maximum discharge during these annual freshets is nearly sixty thousand cubic feet per second. In November, 1879, during an unusual flow, the Panama Railroad was covered with water nearly eighteen feet deep for about thirty miles. As the canal is below the level of the railroad, the effect of this river on it when in flood and filled with sedimentary matters, may be disastrous. The depression through which the canal is to be built being situated between mountain ranges on each side, with steep declivities, all the water drains rapidly into the valley. The rainfall is excessive, being sometimes six inches in depth in twenty-four hours for days in succession. The river consequently rises rapidly, and the greater part of the valley is submerged. The only method by which the water flowing in the Chagres River Valley and the valleys of tributary streams can be diverted from the canal-prism, is, to intercept it at some distance from the canal and drain it by lateral canals to the sea. In severe floods the surface-water of these lateral canals will be about seventy feet above that of the canal proper, requiring heavy guard-banks to restrain the anticipated floods. In other words, 'the water will have to be hung up on the sides of the mountains.' With the pressure that will be brought against the banks of these lateral canals during the heavy freshets, there will also be great risk of the water breaking through and so completely

filling the canal by sediment as to stop navigation until it is removed. It is the intention of the Canal Company to hold back and deflect the waters of the Chagres River at Gamboa by a dam constructed between two hills, thus forming an artificial reservoir. The height of the dam will be about 150 feet above the bed of the river. The water thus impounded will be conducted by lateral channels to the sea through deep excavations. One of these channels will be about thirteen miles in length, and its dimensions will be nearly the size of the main canal. The estimated cost of the dam, as given by M. de Lesseps, is \$19,000,000. The greatest constructive obstacle in the shape of excavation is the Culebra, or summit cut, which, on the axis of the canal, for about half a mile, has an average cutting of 100 metres (330 feet), or 360 feet from the bottom of the canal. The width of this cut (being on a side-hill) at the surface of the ground is about 300 metres (984 feet), and the depth for a few hundred feet on the highest point in this cross-section is about 164 metres (538 feet) from the bed of the canal.

"The canal, being built *à niveau*, requires a tide-lock at Panama, where the ordinary range of tides is eighteen feet. During storm-tides the range is much greater. The materials in general to be excavated are, on the marshes and valley of the Chagres River, a very fine alluvium in which is but little mineral silt; elsewhere, solid rock, clay mixed with conglomerate, with tufa (or compressed volcanic ashes) in the Cerro Culebra. From Culebra to Panama the route is through pyroxenic rock, sandstone tufa, and conglomerate. The total amount of materials to be excavated in the canal proper, according to the originally steep sections, is 143,000,000 yards, and, with the lateral cuts for the Chagres River, not including those required for the Chagres dam at Gamboa, is 13,000,000 cubic yards, or a total of 156,000,000 cubic yards. The amount remaining to be excavated, according to the reports of Lieutenants Winslow and McLean, U. S. N., February, 1885, is about 180,000,000 cubic yards; the time, twenty-six years at rate of progress of the last

year; and the total cost, including interest, \$350,000,000. The work has now (July, 1885) continued about four and one-half years; the results thus far obtained have been the removal of about 17,000,000 cubic yards, mostly material dredged from the marshes at Colon and the removal of the surface soil at various points on the line of the work. It is probable that with the large amount of plant now at work in the shape of dredges, steam-shovels, locomotives, cars, etc., 5,000,000 or 6,000,000 cubic yards per annum may be removed. At this rate of progress many years will elapse before the completion of the work. The money for building the canal is furnished almost wholly by the French people, who have entire confidence in Count de Lesseps. The obstacles of almost every kind, both constructive and political, which he so successfully overcame in constructing the Suez Canal have given him a high reputation.

"In the maintenance and operation of the canal there are certain fixed conditions which will entail a great expense, and perhaps at times serious delays to commerce: First, the tide-gate at Panama; second, the effects of the great rainfall of about 120 inches per annum on the Atlantic side, which will be a constant menace to the canal, and no doubt at times a serious obstacle to its operation; the effects of these excessive rains upon the clayey slopes of the canal can hardly be estimated; third, the perpetual calms that prevail for a long distance on both sides of this Isthmus at this point will prevent the use of the canal by sailing vessels, in which now most of the commerce between the Pacific coasts and Europe passes around Cape Horn.

"The estimated commerce for the canal transit in 1889 is 6,000,000 tons. There is no doubt that the accomplishment of this work would revolutionize the world's commerce and increase the prosperity of many nations.

"The following authorities have been consulted, and are now stated for reference: *Congrès International d'Études du Canal Interoceanique* (1879); report of Lieut. R. M. G. Brown, U. S. N. (1884); report of Lieut. R. P. Rodgers, U. S. N., February 28, 1883; 'Maritime

Canal of Suez' (pp. 130-153), by Prof. J. E. Nourse, U. S. N.; paper by Charles Colné, read before Franklin Institute, October 22, 1884, on 'The Panama Interoceanic Canal;' 'Problem of Interoceanic Communication by Way of the American Isthmus,' by Lieut. John T. Sullivan (1883; issued by Bureau of Navigation, Navy Department); reports of Lieut. Francis Winslow and Lieut. R. H. McLean, U. S. N., February, 1885; also report of Lieuts. M. Fisher Wright and Alfred Reynolds, U. S. N., February 5, 1885."*

The present status of the Panama Canal may be defined by stating that after seven years work and an expenditure estimate of over \$220,000,000, M. de Lesseps has abandoned his pet tide-level scheme, and at the eleventh hour adopted locks. About one-fifth of the work originally planned has been done. The fixed charges of the company to-day on their shares and bonds and the maintenance of the Parisian and Isthmian offices, exceed \$22,000,000 per annum. This does not include the turning over of a single shovelful of earth.

A word regarding the Eiffel contract, regarding which one hears so much. It is probably one of the most remarkable documents that ever was drawn up between a contractor and a corporation. All of the provisions are absolutely in favor of the contractor. He exacted a huge deposit; for as much as one million of dollars, or five millions of francs, were placed to his credit in the hands of two banking firms in Paris, before he commenced any work at all. Then his staff, that was sent to Panama, was paid six months in advance by the Canal Company. One of the engineers on that very work told me, while in Panama in March, 1888, that the contracts called for ten gates, at one million of dollars each, while the masonry and wherewithal to constitute a lock, was to be a separate charge. Thus we have ten millions for ten gates, and, say five millions for masonry—total, fifteen millions. The fact never to be lost sight

* Johnson's Universal Cyclopædia, Vol. VII. 1887.

of is this, that M. de Lesseps has stated that they are to be temporary locks. These are his own words.

With his usual nonchalance, in comparison with which an Arctic temperature is midsummer, he has assured his countrymen and countrywomen (for there are upwards of thirty thousand female shareholders in the canal), that while the locks are working he will go on digging down to tide-level along-side of his lock-canal. This probably is one of the most remarkable statements that has ever emanated from human lips—and for a variety of reasons. Picture to yourself a lock-level canal built through the ever yielding clayey soils of the Culebra. Let us say that that is done. There is no water on that level with which to aliment or feed a canal. Pockets are to be constructed on the side of that hill as mountain reservoirs. By strengthening their walls with a backing of iron plates they hope to make them strong enough and large enough to hold M. de Lesseps' promises—I really beg his pardon—I mean water, to aliment the upper levels of the Panama Canal. This water has to be pumped from distant streams. Let us say the pumping apparatus gets out of order; then we have no water and the canal will be useless on that occasion. On the other hand, let us say that the reservoirs are full, and that there is one of those sociable little earthquakes, such as have been alluded to, and the walls of the reservoir give way, break into the main ditch, and sweep away the locks.

Again, let us say, that everything goes on just as they have stated—smoothly and the like. Then, according to M. de Lesseps, in that narrow mountain gorge in the Culebra he is going down to tide-level. In view of the fact that the sides of the Culebra move into the cut at the rate of some eighteen inches per annum—and that on a cut of less than eight feet—what can one expect will happen to his lock-canal after he has got below its level?

In short, the building of a tide-level canal alongside of the lock-canal is a physical impossibility, and there are no modern underwriters that would put a dime of insurance on vessels going through a canal at that time.

There is another feature in connection with these locks that should afford M. de Lesseps considerable food for thought, and it is this. The plans on which his locks are being built to-day are those designed by M. Eiffel for a former Nicaragua Canal Company. In view of his bitter denunciations of the latter route—as to it being a land of earthquakes, making lock-canals useless—his present conversion is as amusing as it is instructive.

As we are all aware, M. Eiffel is building a thousand foot tower, to be completed for the opening of the Paris Exposition of 1889. As M. de Lesseps boasts that he has behind him half a million of share and bond holders, perhaps they will ascend that tower and stretch their eyes towards the west to look for the Panama Canal, in the same way that the Spanish king gazed from a window, and said that he thought Panama could be seen, owing to the cost of its walls.

The engineer in the Eiffel employ, from whom I obtained many of the details just used, told me there never will be a canal on the Isthmus, with or without locks. When the present money is exhausted a crash is inevitable.

In fact, I made bold to make a forecast while at the American Association for the Advancement of Science, at its meeting in Cleveland, on the 15th of August, 1888, when, in my paper before the section on engineering, I stated that within six months the company would be in hopeless bankruptcy and that M. de Lesseps' famous *petite gens de bas de liane* would be hopelessly ruined.

The bursting of this South Sea Bubble No. 2 will shake France to its centre. Add to this the commercial stagnation in Europe and the ever increasing darkness in the political horizon, and you have a group of facts sufficient to appal all having any interest in the Panama Canal. *La Belle France* is laden down by a huge debt; already three times that of the United States of America. This is constantly increasing, and the bursting of the canal bubble will hasten a financial crisis in France that unquestionably will affect all having commercial relations with her.

Despite the rose-colored statements to the contrary, very little real work is being done on the Panama Canal at this writing. Work has been stopped on a number of sections, the nominal excuse being that they are completed. But such is not the case. Work has been stopped because the company is without means to pay the contractors. At this time lawsuits aggregating several millions, for damages and for breach of contract, are hanging over the Panama Canal Company. A lot of its plant on the Isthmus was advertised for a judicial sale, and among other things that were enumerated in the list, were the Canal Company's hotel, and their works and plant at the Boca. That was for a judgment of \$400,000. That case, I believe, has been settled, and a number of contractors who have been dispossessed, and whose contracts had been given to others for advanced rates, have sued the company. One of these contractors, M. Murraciale, a Frenchman, recovered one million of francs damages. The system of dispossessing men who are doing their best, and giving their work to others at advanced rates, is one of those things that no fellow can understand on business principles. The sums, paid by the Panama Canal Company for the indemnification of those so dispossessed, or men whose contracts were cancelled, together with the suits in court and judgments against the company, have aggregated over twenty millions of francs, and that, irrespective of the costs.

The seven great contracting firms on the canal are the following :

First, The American Contracting and Dredging Company, who have from kilometre one to kilometre twenty-six. The huge dredges of this company have cut inland some fourteen miles. During my visit to the Isthmus in April, I went over the derivations and the cut made by this company. In many places the channel was from twenty-two to twenty-six feet deep, with an average breadth of, say, one hundred feet. In the upper portions of the cut the depth is six to eight feet, and in making it they have given the Chagres a new channel. That stream, instead of emptying into the Atlantic at the

village of Chagres, at the mouth of the river, now flows in part through the canal into the Bay of Colon. The consequence is that during the rains an immense amount of earth is brought down, and it is feared that in time a bar will be produced in the harbor of Colon, or Navy Bay, in the same way that bars mark the mouths of all tropical rivers.

The second contracting company, taking them in their order from Colon to Panama, is *L'Entreprise Jacob*, working in the axis of the canal at Mindi and on the "derivations" of the river Chagres.

The third contracting company is *Vignaux Barbaud Blanleuil & Co.*, who have the contract from kilometre twenty-six to kilometre forty-four.

The fourth contracting company is the *Société Travaux de Paris*, who hold the contract from kilometre forty-four to kilometre fifty-five.

The next contracting company is that of *Artigue, Sonderegger & Co.*, whose contract extends from kilometre fifty-five to kilometre sixty-two. This is the famous Culebra section.

The sixth contracting company is that of *Baratoux, Letellier & Co.* Their contract covers the canal from kilometre sixty-two to kilometre seventy-six, or off Isla de Naos.

The seventh and last contract is that called *L'Entreprise Eiffel*, which has contracted for the gates—if such a document as it holds can be called a contract.

Some eighteen months ago M. de Lesseps announced to the world that five great contracting firms had pledged themselves to deliver the canal cut to tide-level, but that promise of course is of no moment, now that they have decided on having temporary locks. I have information from a source that I know to be reliable, that the great contracting firms mentioned, had placed to their credit before commencing any work, the handsome sum of \$1,000,000 each, which they were allowed to expend for the purchase of the plant deemed necessary, and when the said sum was expended it was considered as so much work done, and they were at liberty to make

an additional charge of fifteen per cent. thereon as profit.

The famous Bureau System is what has obtained on the Isthmus up to this present time, with changes and amplifications without number. There is enough bureaucratic work, and there are enough officers on the Isthmus to furnish at least one dozen first-class republics with officials for all their departments. The expenditure has been something simply colossal. One Director General lived in a mansion that cost over \$100,000; his pay was \$50,000 a year, and every time he went out on the line he had his *deplacement*, which gave him the liberal sum of fifty dollars a day additional. He travelled in a handsome Pullman car, specially constructed, which was reported to have cost some \$42,000. Later, wishing a summer residence, a most expensive building was put up near La Boca. The preparation of the grounds, the building, and the roads thereto, cost upwards of \$150,000.

The way money has been thrown away is simply astonishing. One canal chief had had built a famous pigeon-house while I was on the Isthmus recently. It cost the company \$1,500. Another man had built a large bath-house on the most approved principles. This cost \$40,000. Thousands and tens of thousands have been frittered away in ornamental grounds, for all had to be *beau*, utility being a second consideration.

M. Rousseau was sent to the Isthmus in 1886 by his government to report upon the Panama Canal. His inspection was to be preliminary to the emission of a lottery loan providing his report was favorable. M. Rousseau was a keen, practical man. While it was quite true that theatrical effects were introduced, he was not deceived.

During my last visit to the Isthmus I went over the work, note-book in hand, and made sixty photographs. I can summarize all by stating that the effect was more than depressing. The Canal Company take credit for thirty million dollars worth of machinery on the Isthmus of Panama. The greater part of this machinery has

been left out in the open, and a prominent engineer told me that two-thirds of it is absolutely useless; and it wouldn't pay to take it away for old metal. Five millions of dollars have been spent in creating a very pretty, well kept tropical town at Christophe Colon. Sidings are covered with valuable engines and all kinds of movable plant which are out in all weather and going to ruin.

The canal hospitals on the Panama side are without doubt the finest and most perfect system of hospitals ever made within the tropics. There are upwards of seventy buildings, and their cost has been over four millions of dollars. That service alone is simply huge.

The following figures are taken from a report of Mr. Armero, a Columbian officer, which was made up the 30th of June, 1886. His official figures are:

Excavations of 14,000,000 cubic metres, \$28,000,000; material purchased, \$22,000,000; combustibles, \$3,800,000; explosive material, \$1,300,000; purchase of Panama Railroad, \$18,685,088; encampments on the line, \$9,000,000; *Central Hospital at Panama*, \$5,600,000. *Hospital at Colon, and ambulances*, \$1,400,000. Stables, \$600,000; carriages and horses, for employees, \$215,000; servants for employees, \$2,700,000; mules and wagons, \$152,000; buildings for offices, private residence for the manager, country seat for the same—grounds, etc., \$5,250,000; parlor car for the same, \$42,000; sanitarium at Toboga, \$465,000; indemnity to commissioners (sent at the Canal Company's expense to report on the canal), \$2,000,000; indemnity to contractors (for company's failure to carry out certain contracts), \$2,300,000; wages of employees on the line, \$5,000,000; offices at New York, Paris and Panama, \$8,400,000; police on the encampments, \$2,300,000; pharmaceutical staff, \$4,800,000; interest at five per cent on capital, \$30,000,000—Total, \$154,509,088.

The above figures are instructive, and as they emanate from a Colombian officer then on the Isthmus, who was watching the matter for his government. they tell their own tale.

Mr. Armero's report was a fearfully wet blanket to the company.

Now, I think it time to turn to some of M. de Lesseps' official literature and compare his promises one by one, as they have appeared in print, and then allow my readers to draw their own conclusions.

CHAPTER XXV.

THE PANAMA CANAL—ITS PRESENT CONDITION AND ITS FUTURE
—THE ENTERPRISE JUDGED FROM M. DE LESSEPS' OFFICIAL STATEMENTS.

THE problem of interoceanic communication by way of the American Isthmuses is a very old one. I refer to the Isthmus of Panama, the Isthmus of Darien, and the Nicaragua route. The plans and schemes by which two vast oceans were to be married, to borrow one of M. de Lesseps' similes, are too numerous to be detailed here. The idea of connecting the oceans is almost coincident with the discovery of the Pacific by Vasco Nufiez de Balboa, as may be gathered from the following:

"In the town library at Nuremberg, is preserved a globe, made by John Schöner, in 1520. It is remarkable that the passage through the Isthmus of Darien, so much sought after in later times, is, on this old globe, carefully delineated." *

Among the Spaniards, Gomera, a historian, was the first to advocate the union of the oceans by means of a canal. Three hundred and thirty-seven years ago all of the schemes that have received consideration recently, were on the tapis. There was the old Panama scheme, the Nicaragua scheme, and the Tehuantepec scheme. These were submitted to Philip II. and his court. Gomera was one of those clear thinking, enthusiastic men to whom obstacles were but new stimulants to victory. When he was confronted with the difficulties to be overcome in the canalization of the Isthmus he said, addressing his king, "It is quite true that the mountains obstruct these passes, but if there are moun-

* King's "Wonders of the World."

tains there are also hands. Let but the resolve be made and there will be no want of means; the Indies to which the passage will be made will supply them. To a King of Spain with the wealth of the Indies at his command, when the object to be attained is the spice trade, what is possible is easy.'

"But the sacred fire had burned itself out. The peninsula had a ruler who sought his glory in smothering free thought among his people, and in wasting his immense resources in vain efforts to repress it also outside of his own dominions throughout all Europe. From that hour Spain was benumbed and estranged from all the advances of science and art, by means of which other nations, and especially England, developed their true greatness." *

What that historian sought and recommended to the King of Spain, was the spice trade of the Indies. In a paper read before the Natural History Society of Santa Barbara, California, on the 8th day of June, 1885, I used the following words:—

"This was the starting point of the canal question, a question thought of then as a means of developing the spice trade with the Indies; a question that to-day, and in the near future promises to be spicy enough for the Governments of France, United States of Colombia, and the United States of America, and interesting to all students of international law."

No fact is better known to students of the literature bearing on this subject than that the early surveys were excellent, and in the early part of this century Admiral Fitzroy, of the British navy, said that no surveys need be better. The people who have been prominent in the past in connection with the work, have been the Dutch, Swedes, English, Scotch, and, in modern times, the French and Americans.

"This exclusive policy of Spain was manifested as late as 1775, when, on the presentation of a memoir by

* "Problem of Interoceanic Communication;" Sullivan. Washington.

the citizens of Oaxaca for improving the Tehuantepec route, the memorialists were censured as intermeddlers, and the Viceroy fell under his sovereign's displeasure."

Kingly indifference and an iron hand crushed all projects, and plans were in abeyance until 1808, when Humboldt again drew the attention of the world to the subject. Later, in 1823, the then Kingdom of Guatemala, whose southern boundary made a part of the present State of Panama, threw off the Spanish yoke, and the new Republic of the centre of America stirred in the matter. Surveys were made in 1824-26, 1828-30, 1835-38, 1846-47, and on to our own time.

The literature on Isthmian surveys is most voluminous. Passing from times past to things of to-day, I have to state that the first surveys for the present Panama route were made under Lieut. Lucien Napoleon Bonaparte Wyse. As it was quaintly observed by the late Admiral Pim, they did not command universal respect. By referring to Lieutenant Sullivan's admirable compilation,* some of the peculiarities of that survey may be briefly stated as follows. It commenced on the Panama or Pacific side but did not extend to the Atlantic, nor anywhere near it. Still, incredible as it may seem, Lieut. Lucien Napoleon Bonaparte Wyse gave a minute plan for the construction of a canal, even to its cost within ten per cent. There was much that was remarkable about that survey. Lieut. Lucien Napoleon Bonaparte Wyse was acting for a society calling itself the *Société Internationale du Canal Interocéanique*. Lieutenant Sullivan's compilation says that, "Lieutenant Wyse was not instructed to seek the best line, but the best line in a certain territory, where the society could secure a concession and profit by its sale." In 1878 he was again authorized by this society, to return and complete his surveys. What a commentary on the word "complete," particularly, as he had previously

* "The Problem of Interoceanic Communication by Way of the American Isthmus." By Lieut. John Sullivan, U. S. N. Issued by the Hydrographic Department, Washington.

completed his canal on paper even to calculating its cost! He returned to the Isthmus and did a lot of helter-skelter work and obtained a concession in Bogota which embraced the whole country of the United States of Colombia, thus including all the proposed canal routes except that of Nicaragua. As the result of the above explorations, and those made in 1876-7, the following plans for a canal were devised. The dimensions proper were, breadth at bottom twenty metres, (a metre is 39.333 inches), at three metres from the bottom, twenty-six metres; at the surface from thirty-two to fifty metres, according to the nature of the soil. Depth eight and a half metres at mean low tide. Tunnel, breadth at bottom, twenty-four metres; at surface, twenty-four metres; height above level water, thirty-four metres. It was with these dimensions that the estimated prices were calculated; twenty-five per cent being added to the price so obtained.

The surveys made there by both English and American engineers advocated a tunnel, and one of the most thorough of these surveys was that made by the late Commander J. E. Lull, U. S. N.

We have now brought this brief summary up to the spring of 1879. On the 15th day of May the now celebrated International Conference was held at Paris to select a route. It goes without saying that the *Société Internationale du Canal Interocéanique* had not been idle. It held the concession. General Türr and his brother-in-law, Lieut. Lucien Napoleon Bonaparte Wyse, were the exponents of each and all the extraordinary advantages possessed by the Wyse route. It was at that conference that M. Ferdinand de Lesseps appeared on the scene, and subsequently it transpired that he had sent Lieut. Lucien Napoleon Bonaparte Wyse and his party on their second expedition. We read that the meeting was opened with great formality. A president, five vice-presidents, a general secretary and four other secretaries were named. Five committees were appointed and subdivided. The president vacated the chair, but it was taken by the "great undertaker"

of the French, M. de Lesseps. Captain Bedford F. C. Pim, R. N. (later Admiral), and Lieutenant Sullivan, U. S. N., state that the conference was composed of one hundred and thirty-six members, of whom seventy-four were French and sixty-two of different nationalities. Forty-two were engineers. Of the forty-two engineers, thirteen had been on the Suez canal. The remaining ninety-four members, were bankers, politicians, speculators, members of the geographical societies, and army and navy officers.

American interests were represented by Admiral Daniel Ammen, a civil engineer, and Mr. A. G. Menocal, of the United States navy, gentlemen who are profoundly versed in all knowledge referring to both routes; Mr. Menocal having been on the long survey of 1875 at the Isthmus of Panama, and Admiral Ammen having had intimate knowledge of both routes.

English interests were represented by Sir John Hawkshaw. Captain Pim, R. N., had been named a delegate. He had conducted extensive surveys all along the coast of the Isthmus and to the south, for his government, and was thoroughly familiar with the ground. An accident prevented his attending the conference. Three of the gentleman named could have given the conference most valuable and instructive information, but they found a pre-arranged meeting, where their views went for naught. The Panama route was to be, and was adopted as M. de Lesseps had intended it should be. He bulldozed his committees and reigned with a rod of iron. Reasonable objections made by M. Lavalley, who referred to *le grande inconnue de la Chagres*, and other eminent French engineers, were practically silenced. A most important fact, which must not be overlooked, is that the Wyse concession was sold to the Canal Company for the modest sum of ten millions of francs, or two millions of dollars. On the 29th day of May the conference held its final session, and after giving a recapitulation of the principal schemes as prepared by the sub-committee of the 4th, or Technical Committee, the following was put to a vote:

"The conference deem that the construction of an interoceanic canal, so desirable in the interests of commerce and navigation, is possible, and in order to have the indispensable facilities and ease of access and of use, which a work of this kind should offer above all others, it should be built from the Gulf of 'Limon' (Colon) to the Bay of Panama."

This resolution was carried by a vote of seventy-eight members, nineteen of whom were engineers and professional men. Of this number nine had been connected with the Suez Canal; eight voted no, including M. Lavalley and other equally independent thinkers; twelve abstained from voting and thirty-eight were absent.

The conference simply gave form to what had been decided upon previous to the meeting. M. de Lesseps, in a skilful, diplomatic way, had forecast the whole thing, had instructed who should be invited, and had pre-arranged the issue. It partook of the nature of a farce, and one of magnificent proportions. Still it had attained its object and had secured a high sounding name, and its findings appeared before the world as a properly matured scheme. Following it a technical commission to visit the Isthmus of Panama was in order.

It was composed of engineers of renown, geologists, and others; such as Col. Geo. M. Totten, Chief Engineer of the Panama Railway, Gen. W. W. Wright, United States Engineers, Gen. Dirks, Victor Dauzats, E. Bouton, Pedro A. Sosa, Alexander Ortega, C. Convreux, Jr., and Gaston Blanchet. These, with M. de Lesseps and many others, visited the Isthmus early in 1880, during the dry or best season of the year. They had a delightful time and were fêted right royally. M. de Lesseps was enchanted with the blue skies and genial air of the early dry season. Good Dame Nature appeared in her becoming mantle of tropical vegetation. With that inimitable fluency of language peculiar to the French, in his reports he painted the Isthmus as the true garden of Paradise.

To get back to Italian skies, tropical scenes and the two earlier openings of the canal, I want my readers to bear in mind that the commission with M. de Lesseps on the Isthmus of Panama agreed to estimate the cost of the work at the prices fixed by the Paris Congress, and the following estimates were given out by the commission:

You will please bear in mind that the Commission based its calculations on the figures of the Paris Congress and placed the total cost of its construction at 843,000,000 francs, or taking the francs at five to the dollar, we get the sum of \$168,600,000, United States gold.

The Commission sailed for New York in the steamship *Colon*, Captain Griffin, of the Pacific Mail Steamship Company. While on its way to New York, M. de Lesseps reduced the \$168,600,000 to \$120,000,000. He floated \$60,000,000 or 300,000,000 francs as his first loan, and gave out that the canal could be completed for 600,000,000 francs or \$120,000,000.

The route lies between the city of Colon on the Atlantic and the city of Panama on the Pacific coast. Leaving Colon it closely follows the line of the Panama Railroad, crossing amid swamps and quicksands in the Mindi district to Gatun on the river Chagres; thence onward to Emperador. Leaving Emperador, the highest point on the range or "divide," is reached, namely Culebra, from where it descends the valley of the Rio Grande to the Bay of Panama. From near Paraiso on the Panama side, the canal, if ever completed, will pass through six miles of swampy country.

In the swamps on both sides of the Isthmus, there is a luxuriant growth of vegetable life, owing to the ever present factors great heat and great moisture, with a corresponding rapid growth and decay. Quite apart from these most important factors in the production of malarial poisons, there is a constant admixture of salt and fresh water, the latter coming from the interior laden with the remains of decomposing vegetable organisms. All the best known factors for the production of intense malarial poisons there exist.

M. de Lesseps' plans are, briefly: an open cut canal, on tide-level, from ocean to ocean, at a uniform depth of twenty-seven feet, six inches below the level of both oceans. Its length will be some forty-five and a half miles. Width at bottom seventy-two feet, at water line ninety feet. Owing to the great difference in the tides of the two oceans, a vast tidal basin must be constructed on the Pacific side. The basin will be made in the swamps of the valley of the Rio Grande, extending inland towards Paraiso.

M. de Lesseps in his calculation of \$120,000,000, made no provision, I believe, for a tidal basin. That, now planned by M. Jules Dingler, of the Ponts et Chaussées of France, the Director General of works at Panama, is a magnificent affair, which will be nearly three quarters of a mile square. An engineer who had just completed surveys there informed me that this basin will cost fully \$30,000,000 additional, a handsome sum in itself. It was barely six months ago that the Canal Company had a final survey made of this locality. M. de Lesseps and his Technical Commission, in their very superficial survey, had looked on it as a swamp only. A swamp only, say you! Yes; but fancy the company's surprise after having been on the Isthmus fully three years and a half, to learn that under the surface of that peaceful malarial breeding swamp, at a varying depth of twelve to sixteen feet, was one vast ledge of volcanic rock! This final and complete survey was made by American engineers.

Next in order is the cut at Culebra, a vast undertaking in itself. The calculations for the angle or sides of this deep cut were placed at one in one. Such an angle would be impossible in a country where the rain falls in torrents and where the Upper Chagres River has risen sixty feet between banks as a result of a single day's rain. The sides, to have any stability, must be one in four. What does one in four mean? First picture to yourselves a hill 339.6 feet above sea level; to this add 27.6 feet to reach the bottom of the canal, and it gives a total depth of the cut as 367 feet, with a breadth at the bottom of 72 feet, at water line of 90 feet. From this

point upwards calculate the sides at one in four, and it gives a vast cut of nearly three-fourths of a mile across.

In M. de Lesseps' calculations, the railroad level of 238.6 feet at the summit was used. Later surveys showed that the bend there would be too sharp. The next best level was 100 feet higher, and on the latter they are now working. It is said that this will add at least another 20,000,000 of cubic metres of excavation not included in the original estimates, that will cost anywhere from \$40,000,000 to \$50,000,000 additional. An officer of the United States Navy estimates that this cut alone will take at least ten years to complete.

Then comes the problem of damming the Chagres River at Gamboa. This is another colossal undertaking—the penning up of the waters of a tropical river, which drains a great valley region amid mountains. In the original estimates \$20,000,000 were allotted for this purpose. Up to the time of my leaving Panama, on the 25th of April, 1888, no plan had been made public that solved this knotty point. Survey after survey had only developed new difficulties. The proportions of the projected dam as taken from the report of Captain Bedford Pim, of the British Navy, to the late Mr. Frelinghuysen, Secretary of State for the United States of America, is as follows:

Length at base,	1,060 metres.
Length at top,	2,110 metres.
Thickness,	330 metres.
Height,	47 metres.

When we know, and realize, that there is no rocky foundation on which to place such a colossal dam, we are dazed at the daring of the whole scheme. Let us suppose the dam built, to divert the river. A new bed will have to be dug for it some nine miles to Colon, where its new outlet will be to the north of that city. A prominent canal engineer said to me: "The damming of the Chagres River seems a hopeless task. I, as a Frenchman, should not say so, but it is true nevertheless."

Every five or six years vast inundations fill the valley of the Chagres and Upper Obispo. Twelve miles from Panama is Emperador, across the "divide" towards Colon. The railroad follows the valley of the Chagres and the Obispo as well; while the canal closely follows it. Hills of considerable height are met with on the Colon side, and in the valley between these hills the waters pile up in fine fashion. During the last heavy flood in the fall of 1879, there were from twelve to eighteen feet of water in many places over the bed of the railway. A Colombian engineer on the Commission, Mr. Pedro Sosa, during that flood took a bungo or canoe at Tiger Hill, some nine miles from Colon, and proceeded direct to Emperador or over what will be fully twenty-six miles of the projected canal. The flood lasted four days, washing away houses, the track, etc. Such are the tropical floods of that locality. What will become of a tide-level or any other canal under such treatment need not be dwelt on.

Here again an American engineer comes to the front. The Canal Company had had their legions of engineers at work for nearly three years, and knew nothing of these floods. Mr. Robt. K. Wright, Jr., late of the U. S. N., made a report on these floods and furnished reliable information. An undeniable fact of this nature proves very conclusively that the French entered on the building of the canal hastily and without due knowledge.

Having but too briefly considered the tidal basin, the gigantic cut at Culebra, the unruly Chagres, of which a canal chaplain said: "They must dam it or it will damn them;" let us consider the last of the very prominent obstacles that beset M. de Lesseps's Panama Canal scheme. I refer to the swamps and quicksands at Mindi, a few miles inland from Colon.

In building the Panama Railway, as I have already stated, the late Col. George M. Totten, the chief engineer, found in the swamps of Mindi a very serious obstacle. When his staff commenced their soundings they failed to get bottom at 180 feet. But as he was building a

railway the difficulty was solved, as at Chat Moss, by throwing in immense quantities of wood, earth, etc., and finally floating the road bed on the materials below.

When we consider that the swamps extend for several miles, and remember that below are quicksands, we can judge of the almost insurmountable difficulty at this point for a canal. It is said that the French engineers, after diverting the course of the Chagres, hope to use its waters to flush this immense body of sand out to sea. Excellent, if possible; but if possible, what becomes of the deep water harbor at Colon, on Limon Bay?

On the 28th February, 1881, the first detachment of canal engineers reached Colon, or Aspinwall, and proceeded direct to Panama. Then followed surveys, the building of small villages along the proposed line of the canal, the erection of hospitals, and an immense amount of gush on paper. Many of the accounts of the work done, and published in the Parisian press, read like a tale of magic. I do not offer any translations of the *couleur de rose* statements, fearing that their French fragrance may be lost in our plain English tongue.

At the annual meeting of the share and bond holders in July, 1884, M. de Lesseps said that the canal could be completed in 1887, and that this had been proved mathematically — I quote his own words—but to err on the side of safety, he would add a year, and say December, 1888, for its final opening. He brought forward the budget for the next year, etc., etc.

In 1884, *La Bourse Pour Tours*, a Parisian paper, announced the indebtedness of the company to its share and bondholders as being 700,000,000 francs, or \$140,000,000 gold. Annual interest 22,875,000 francs, or say \$4,500,000 in 1884.

After four years' work and an expenditure said to vary in amount from \$90,000,000 to \$125,000,000, how much has been done? Taking their own figures, a twentieth of the whole will be a generous estimate. The gross cube to be removed was at first 75,000,000 cubic

metres; it rose to 88,000,000, then 110,000,000, when Mr. Joseph W. Adamson, C. E., Vice-Consul General U. S. A. at Panama, calculated it for an expert and placed it at 150,000,000. Later his calculations were verified by an officer of the Panama Canal Company, who in a new estimate gave it at 153,400,000 including the new basin, etc., being more than double the original calculations.

As far back as 1884 I said and wrote :

"The canal is a commercial impossibility, and the end is not far distant. Unless an immense loan is floated within six months, in another year work will have ceased and thousands and thousands of shareholders will have lost their all in what looks uncommonly like a South Sea bubble. To complete it would cost probably from \$400,000,000 to \$500,000,000 ; such a fabulous sum that no existing tonnage would pay interest on it.

"Finally the canal has had a political aspect. I say *has* had, for the kindly intervention of the American forces at Panama not only saved that city from the fate that destroyed Colon, but showed the world at large that this vast and great Republic will permit no foreign intrigue on the American Isthmus and further that she will see that peace and order is maintained there according to her treaty with Colombia."*

The *Economiste*, June 25, 1886 : "True patriotism consists in preventing one's country from ruining itself for the profit of another.

"Considering the blindness of those who advocate it, the undertaking of the Panama Canal may be considered an equivalent of the war of 1870. Within due proportions, it is a similar unfathomable and irreparable disaster which is in preparation."

Economiste, July 23, 1887 : "At the fatal point which they have now reached, if the administrators, shareholders and bondholders do not know how to make the necessary sacrifices, the year 1889 or 1890 will witness the most terrible financial disaster of the

* The *Independent*, Santa Barbara, Colombia, June 20, 1885.

nineteenth century and probably of all modern history."

The *Economiste Français*, December 3, 1887: "From all information received through other channels than the company, it is really shown that the situation of the undertaking, is getting more and more hopeless. According to the calculations of Mr. Tanco Armero, the Colombian delegate to the company, the completion of the canal would necessitate an expense of 3,000,000,000 francs* (\$579,000,000) for actual work, which with the general expenses and interest would represent over 4,000,000,000 francs (\$772,000,000) still to pour into this abyss. The year 1888 will certainly see the liquidation of the company. The lottery-bonds can do nothing towards meeting such great necessities."

"The documents published by M. de Lesseps and the company, documents which will be found reproduced further on, go to corroborate the opinions expressed by M. Leroy Beaulieu, and will remove all doubts from the minds of those who still have faith in this disastrous affair.

"I must add that as the interoceanic *Bulletin*, from which I take the extracts, is the only official journal of the company, these citations cannot be refuted.

"We shall now review the various questions raised by the letter addressed on November 15, 1887, by M. F. de Lesseps to the Cabinet of the French Republic, requesting the authorization for raising a loan of five hundred and sixty-five million francs secured by lottery bonds."

The above is from Philipon's letter published in *Suez and Panama*.

FIRST ESTIMATE.

Bulletin, September 1, 1879, page 6: "We will call attention to the fact that the real cost of the tide-level canal, via Panama, is six hundred and twelve million francs."

* One franc is worth \$0.193.

SECOND ESTIMATE.

Bulletin, March 15, 1880, page 116: "I recapitulate my reductions" says M. F. de Lesseps. "Total one hundred and eighty-four millions to deduct from eight hundred and forty-three leaves indeed *six hundred and fifty-eight million francs* to figure upon, I make no remarks as to the quantity or price per cubic metre of soft or hard rock, but on this head *great savings* can be expected which will *more* than compensate the interest to pay to the shareholders for the capital invested during the construction."

N. B.—It is really surprising to see M. de Lesseps, who is not an engineer, reduce by a mere stroke of the pen, the estimates made by a congress, and the capitalists must be very blind who put a thousand million francs into an enterprise entered upon with so much thoughtlessness.

THIRD ESTIMATE.

Bulletin, June 15, 1880, page 182: "All that it will cost will be *five hundred millions* to spend in six years." —(F. de Lesseps.)

FOURTH ESTIMATE.

Bulletin, December 1, 1880, page 225: "It is now known what the cost of the canal may be expected to be; the expenses will not run over *six hundred million francs*, and the work will be completed in *six years*."

And so on, until 1885, when the company discovered that it had spent nearly five hundred millions and that the promised canal was hardly commenced.

FIFTH ESTIMATE.

Letter of May 27, 1885, from the company to the Minister of the Interior: "The expense of constructing the tide-level canal will approximate *one thousand and seventy million francs*."

SIXTH ESTIMATE.

Bulletin, March 12, 1886: "The cost of the tide-level Panama canal will be one thousand and seventy millions, and with the interest, *one thousand, two hundred million francs.*"

Seventh estimate of a tide-level canal suddenly transformed into a provisional lock-canal, 4 metres, 57 centimetres in depth, instead of 9 metres.*

Extract from the letter of November 15, 1887, to the Prime Minister: "*I have the honor to ask the authorization of raising a loan of five hundred and sixty-five million francs, which may be necessary.*"

If we add these five hundred and sixty-five millions to the one thousand and fifty-nine millions resulting from the loans and temporary investments and receipts of the railroad, we have a total of one thousand, six hundred and fifty-four millions, which is such a considerable sum that it would have been sufficient to establish *two canals, a tide-level one estimated at one thousand and seventy millions, and one with locks estimated at five hundred and seventy millions.*

We read, indeed, in the *Bulletin* of September 1, 1879, page 6: "The lock-canal via Panama is only estimated at five hundred and seventy millions, it is true, whereas the expenses of the tide-level canal would be in the neighborhood of one thousand and seventy millions."

Let us recapitulate these estimates:

First September, 1879, cost of a tide-level canal, completed,.....	612 millions.
Second March, 1880, cost of a tide-level canal, completed,.....	658 millions.
Third June, 1880, cost of a tide-level canal completed,.....	500 millions.
Fourth December, 1880, cost of a tide-level canal, completed,.....	600 millions.
Fifth May, 1885, cost of a tide-level canal completed,.....	1070 millions.

* One metre equals 3.2808992 feet.

Sixth March, 1886, cost of a tide-level canal completed,.....	1200 millions.
Seventh November, 1887, cost of an <i>unfinished, provisional canal with locks</i> , and 4 metres 57 centimetres in depth, instead of 9 metres,.....	1654 millions.

We are far indeed from the famous contract of Couvrex & Hersent, which guaranteed the entire digging of a tide-level canal, for five hundred and twelve millions, and equally far from the calculation of the Congress which estimated it at *five hundred and seventy millions*, for a *complete and not temporary lock-canal*.

ESTIMATED TRAFFIC.

Extract from M. de Lesseps' letter of November 15, 1887: "*To give passage, commencing the first year, to a traffic calculated at 7,500,000 tons.*"

For eight years past the publications of the company, state and repeat in every issue, that Mr. Levasseur, in his report to the congress, stated that 7,500,000 tons will pass through the canal the year it is opened.

Mr. Levasseur has never made such a statement and the company knows it better than any one, as it published in its *Bulletin* of February 15, 1880, page 104, the report of Mr. Levasseur, of which the following is an exact copy:

"It is important that the bearing of these figures be not misunderstood. They do not mean that the 7,250,000 tons will necessarily pass through the canal *the year of its opening, nor the succeeding years. . . . We give in a lump the gross amount; we do not say what share of it will go to each of the means of communication which will then exist across or south of the American continent.*"

As may be seen, the honorable Mr. Levasseur never wrote what the company credits him with.

To get an idea of the value of this *total* traffic estimated by the Congress, it is well to know that the total of 7,250,000 tons was established *without documents*

or by means of *vague and uncertain documents*, and after *six sittings* of a total duration of six and three quarter hours. (See the report of the meetings of the Congress of 1879, page 25 and subsequent pages.)

The Congress declared therefore that during the year of the inauguration of the canal, the *gross* traffic of the American continent with the whole world would probably be 7,250,000 tons, without stating which way *all or part of this total* would take.

In order to further its enterprise, the company takes the *total* of 7,500,000 as the traffic assured to the *temporary lock-canal*, and by so figuring obtains one hundred and twelve millions of receipts, forgetting that on May 27, 1885, in the company's letter to the Minister of the Interior, it had fixed the transit at *four millions tons* only, for a *tide-level canal entirely finished*.

According to the *Bulletin* of December 16, 1887, page 1910, the provisional canal is to be but 4 metres 57 centimetres deep; thus not a *single* ship will be able to pass, as in the tenth *Bulletin* of the Suez Canal of the 22d of December last it was stated the ships that go through Suez have a minimum draft of 7 metres. Therefore, without sufficient depth, no traffic is possible.

WORKMEN.

Extract from M. F. de Lesseps' letter of November 15, 1887.

"It was possible to execute the work in eight years by doubling the plant, which was done; this plant, collectively corresponding to a group of 30,000 to 40,000 workmen. I was in hopes that the contractors would obtain that number."

Bulletin, February 1, 1881, page 315: "Orders are already prepared for the construction of steam engines by means of which we will not have to employ *more than 8,000 day laborers*." (Meeting of January 31, 1881.)

Bulletin, July 15, 1880, page 210: "*Six years will be sufficient to accomplish the work, viz., 1,500 days, counting 250 days per annum; 50,000 cubic metres* per day*

* One cubic metre equals 1.31 cubic yard.

with 8,000 *workmen*, the machines and the necessary motive power.”—(F. de Lesseps.)

Bulletin, March 4, 1881, page 333: “The execution of this programme will not require more than 8,000 to 10,000 workmen, during the most active period of the work.”—(General Meeting, March 3, 1881.)

Bulletin, December 15, 1883, page 905: “*Recruiting workmen is extremely easy*. In a short time the company will have 15,000 laborers and *this number could easily be carried to 20,000, 30,000 and even 40,000.*”

Bulletin, April 15, 1886, page 1,479: “57,000 horsepower, that is, 574,000 men of iron and steel, without counting those of flesh and bone! What a manifestation of human power!”

Bulletin, May 1, 1886, page 1491: “M. de Molinari, correspondent of the *Débats*, a man of great worth, very competent, very calm, an experienced judge, has calculated that the machines for performing the work represent the laboring power of 500,000 men.”

Until 1886, the company had stated and repeated that workmen were abundant and there was no lack of them; but it now pretends that its work-yards are deserted. Could it be that notwithstanding the climate, which, according to the company, is a very healthy one, the workmen are dead?

To sum up, the company at the start asked for 8,000 workmen at the most, to dig in six years a tide-level canal, and for a long time it has possessed 574,000 men of iron and steel, without counting those of flesh and bone.

It complains nevertheless, and declares that it cannot finish its canal for want of workmen. Whose fault is it?

VARIOUS OPENING DATES ACCORDING TO THE COMPANY.

Extract from M. de Lesseps' letter of November 15, 1887. *We admit that the inauguration cannot take place before the first days of 1890* (read February 3d, 1890).

This date was fixed by M. de Lesseps at the Academy of Sciences, on October 31, 1887.

First, Positive Inauguration of a tide-level canal on October 1, 1887.

Bulletin, February 1, 1880, page 84: "This very day I will make an appointment to meet you at Panama seven years hence, on October first, 1887, for the inauguration of the canal, and I hope that the same deputation, composed of the same men, will keep the appointment punctually. I thank you once more for your kind wishes, and regret that I cannot shake hands with, and embrace you all."—(F. de Lesseps.)

Second Inauguration of a tide-level canal on January 1, 1888.

Bulletin, August 1, 1884, page 1041: Even though we should not commence the dry workings until January 1, 1885, and the dredging work on January 1, 1886, the canal could mathematically be completed on January first, 1888."—(General Meeting.)

Third Inauguration of a tide-level canal in 1888.

"That is what permitted me to foresee that the canal would be completed in 1888."—(Letter addressed to Mr. Philipon by M. de Lesseps, on November 6, 1883.)

Bulletin, August 1, 1885, page 1260: "The organization of the working camps, the installation along the whole line of twenty-seven contractors piercing the isthmus at their own risk and peril, an immense stock on working footing, is such as to allow the canal to be completed and inaugurated in 1888."—(Letter of May 27, 1885, from M. F. de Lesseps to the Minister of the Interior, to obtain the authorization of raising a loan of six hundred million francs on lottery bonds.)

Fourth Inauguration of a tide-level canal in April, 1889.

Bulletin, February 15, 1886, page 1404: "We will return to Europe in two months and in three years from that time our one hundred million cubic metres of earth and rocks will be extracted and the Pacific and Atlantic oceans will be united."—(F. de Lesseps.)

Fifth Inauguration of a tide-level canal on March 1, 1889.

Bulletin, April 15, 1886, page 1478: "On one of these

days, you have, by a spontaneous inspiration, fixed the date of the opening of the canal as *March first, 1889.*"—(Speech of Bishop Thiel, of Costa Rica, to M. de Lesseps.)

Sixth Inauguration of a tide-level canal in July, 1886, at the latest.

"We reach the irrefutable conclusion that the Panama canal will be completed in July, 1889, at the latest."

Bulletin, February 1, 1886, page 1390: "For my part, I am positive that I will be able in sixty days from now, to repeat to you, authoritatively, that the work will be accomplished in the course of the year 1889."—(F. de Lesseps to the Academy of Sciences, on January 27, 1886.)

Seventh Inauguration of a tide-level canal in 1889.

Bulletin, May 1, 1886, page 1492: "After having thoroughly studied the technical question and *every inch* of the ground on the whole line of the canal As to the question of the time necessary to finish it, my father has said that it will be certainly completed in 1889; I am entirely of his opinion."—(Charles-Aimé de Lesseps, Vice-President of the company.)

First Inauguration (February 3, 1890) of an incomplete canal, provisionally of 4 metres 57 centimetres in depth, instead of 9 metres, and suddenly transformed into a lock-canal.

Company's letter of November 15, 1887:

"We admit that the inauguration of the ship-canal cannot take place until the first days of 1890." (Read February 3d.)

SUMMARY.

First positive inauguration of a tide-level canal, October 1, 1887.

Second positive inauguration of a tide-level canal, January 1, 1888.

Third positive inauguration of a tide-level canal, in 1888.

Fourth positive inauguration of a tide-level canal, April, 1889.

Fifth positive inauguration of a tide-level canal, March 1, 1889.

Sixth positive inauguration of a tide-level canal, July, 1889, at the latest.

Seventh positive inauguration of a tide-level canal, in 1889.

First inauguration of a provisional canal, not at the level, 4 metres, 57 centimetres deep, and suddenly transformed into a canal with locks, February 3, 1890.

Has the company solemnly announced seven different inauguration days? *Yes.*

Has a single inauguration taken place? *No.*

Can, therefore, the one announced for February 3, 1890, be relied upon? *No.*

What do our Honorable Senators and Deputies think of these numerous inaugurations? *

N. B.—For the depth of 4 metres 57 centimetres see the *Bulletin* of December 16, 1887, page 1910.

Singular coincidence of inauguration announcements, and loans:

In August, 1880, promise of a <i>definitive</i> inauguration, in 1887	Loan, 300 millions.
In December, 1882, promise of a <i>definitive</i> inauguration, in 1888	Loan, 109 “
In October, 1883, promise of a <i>definitive</i> and certain inauguration in 1888	Loan, 171 “
In August, 1884, promise of a <i>definitive</i> , certain and mathematical inauguration in 1888	Loan, 159 “
In July, 1886, promise of a <i>definitive</i> inauguration <i>within the proper limits</i> ,	Loan, 206 “
In July, 1887, promise of a <i>definite</i> inauguration, <i>with hopes of its taking place in 1889</i>	Loan, 113 “
November 15, 1877, promise of a <i>provisional</i> inauguration on February 3, 1890	Loan, 565 “

* *Panama and Suez, Paris.*

VARIOUS ESTIMATES OF THE EXCAVATIONS TO MAKE,
ACCORDING TO THE COMPANY.

I can now understand why the Panama Company announces so frequently the completion of its canal, and why it never inaugurates it.

First, 46,150,000 cubic metres, *Bulletin*, October 1, 1879, page 19.

Second, 72,986,000 cubic metres, *Bulletin*, September 15, 1879.

Third, 75,000,000 cubic metres, *Bulletin*, July 15, 1880, page 210.

Fourth, 99,391,000 cubic metres, *Bulletin*, June 15, 1883, page 784.

Fifth, 100,000,000 cubic metres, letter from M. F. de Lesseps to Mr. Philipon, November 6, 1883.

Sixth, 102,000,000 cubic metres, *Bulletin*, May 1, 1884, page 982.

Seventh, 110,000,000 cubic metres, *Bulletin*, August 1, 1884, page 1037 (General Meeting).

Eighth, 135,000,000 cubic metres, of which 25,000,000 are already removed and 110,000,000 still to be removed. *Bulletin*, July 22, 1887, page 1813.

161,000,000 cubic metres, according to Mr. Tanco Armero, agent of the Colombian Government, to the Canal Company (Report of 1887).

In June, 1887, the company had removed 37,000,000 cubic metres and spent nearly a thousand million francs. It is evident that the company will never find enough money to remove the 110,000,000 cubic metres, at least, still to be excavated to terminate the tide-level canal.

The tide-level canal, still spoken of to the public, is therefore nothing more than a chimera.

IMPOSSIBILITIES IN THE WAY OF INAUGURATING, ON JANUARY 3, 1890, THE PARTIAL, PROVISIONAL LOCK-CANAL.

Extract from M. de Lesseps' letter of November 15, 1887. "We admit that the inauguration of the ship-

canal may not take place until the first months of 1890," (February 3).

"This scheme only leaves 40,000,000 cubic metres to excavate, of which 10,000,000 of hard ground (read rock) and 30,000,000 of dredgable ground. These reduced extractions are materially assured"

FIRST IMPOSSIBILITY.

By whom and how are these extractions assured?

Accepting as correct the figures given of 40,000,000 cubic metres, figures which are probably as exact as the eight different estimates previously furnished by the company (see the chapter on Excavations, page 3), let us see whether it is possible to remove them in two years.

Bulletin, April 1, 1886, page 1439: "We have passed the period of groping and can now go straight ahead."

"At the end of the year 1886, we will make a considerable jump and will succeed in extracting three million cubic metres a month."—(F. de Lesseps.)

The year 1887 is gone, and the excavations which were to be 3,000,000 metres a month could not reach an average of one million a month.

In two years, June, 1885, to June, 1887, with work-yards thoroughly organized and 574,000 men of iron and steel without counting those of flesh and bone, the company has extracted 22,188,000 cubic metres, and nearly all of that in slime and sand, and now that its work-yards are disorganized and short of laborers, that its machines are partly worn out (see *Bulletins* of 1887, and especially that of September 16, last), it pretends that in the same space of time it will excavate 40,000,000, that is to say, double the quantity. It is also well to say that since last August the extraction has been so light that the company has not dared publish the figures.

It is true that M. F. de Lesseps spoke during the spring of 1887 of carrying on the work night and day; but this was immediately received as utopian, as many of the dredges and excavators were inactive even in the daytime from lack of hands.

To further demonstrate the impossibility of extracting 40,000,000 cubic metres in two years, it will be sufficient to recall what the company itself published in its *Bulletin* of December 1, 1879, page 51, concerning the Nicaragua Canal.

"Six years in which to do everything, gates, locks, dams, bridges, trenches, dredgings, etc., besides 60,000,000 to 70,000,000 cubic metres of excavations, *would have been the consummation of activity.*"

"The full commission was obliged to cast votes to make the limit eight years."

The Panama Company has about the same amount of work to perform. Should it therefore accomplish this task in two years only, it would be the culmination of activity.

In order to raise again the shaken confidence of its adherents, the company announces in its *Bulletin* of December 2, 1887, that the total length of the canal already in water is twenty-five kilometres. That is possible, but these twenty-five kilometres neither have the width nor the depth required for large ships. Furthermore, these twenty-five kilometres, being in the lower regions, composed of slime and light soil, have been easy to excavate. This will not be the case in the mountainous region of the Culebra where the celebrated Dutch contractors, who were to remove 610,000 cubic metres per month, only extracted 50,000, and finally abandoned the work.

We have here a real obstacle, which the company can never remove in two years.

Moreover, in the *Bulletin* of December 16 last, page 1910, we read, in bold type, a competent opinion: "The locks will be temporary and the work will be pushed vigorously after the road will be opened to ships gauging 4 metres, 57 centimetres. According to my judgment, ships will cross in three years from next January 1 (1888)."

According to this competent opinion of Mr. Slaven, one of the largest contractors in the company, the canal would only be opened in January, 1891, and not in

January, 1890, and then with a depth of 4 metres, 57 centimetres; that is to say, insufficient for the passage of ships which draw at least 7 metres of water, as the *Bulletin* of the Suez Canal, of December 22, 1887, declares.

SECOND IMPOSSIBILITY.

Messrs. Dirks and Conrad, chief engineers of the Waterstaat in Holland, considered at the congress of 1879 to be the most competent on construction of locks, both declared that it would require at least six years to build only two locks. (See report of the meetings of the congress, page 569.)

It is therefore impossible that the eight locks necessary for the Panama Canal be manufactured in France, transported to and set up in America in two years only.

THIRD IMPOSSIBILITY.

A third impossibility, and not the least important in the execution of the Panama canal, consists in the nature of the material to be removed, to cross the mountainous region of the Culebra. The ground in this district is either extremely hard and consequently very difficult of extraction, or else of bad quality, and extremely given to falling in. The latter is composed of clay and sand impregnated with water, in which it is impossible to cut deep trenches without provoking formidable land slides, against which science has not as yet found an efficacious remedy. (See *Bulletin*, May 16, 1887, page 1762, downfall 910 metres in length, and page 1764, downfall so extensive at Obispo that the fallen earth could not be removed in five months.)

That is an insurmountable obstacle which learned and independent engineers did not fail to call the attention of the congress to in 1879, but of which, unfortunately, no heed was taken.

FOURTH IMPOSSIBILITY.

Bulletin, October 15, 1883, page 864: "In winter, the Chagres carries 1600 cubic metres per second, which makes it a river nearly equal to the Seine."

Bulletin, November 1, 1883, page 880: "The Chagres carries 13 cubic metres per second in summer, and it sometimes reaches 1600 cubic metres in winter. In this figure I do not include all the secondary tributaries.

"For instance, farther down the river, the Rio Trinidad gives 400 cubic metres, and the Gatuncillo as much. (Dingler, chief engineer of the company)."

This river Chagres, which runs up from 13 to 3000 cubic metres per second and consequently acquires two hundred and thirty times its usual volume in the course of a few days, will not furnish enough water in summer to supply the locks, and will carry everything away in winter. To offset this double inconvenience, the company spoke, during seven years, of constructing at Gamboa an immense reservoir of 1,000,000,000 cubic metres; but they gave up this project in 1887, recognizing that this artificial lake was impracticable.

THE EIFFEL CONTRACT.

Extract from M. de Lesseps' letter of November 15, 1887: "These reduced excavations being materially assured, we entrusted to Mr. Eiffel . . . the preparation of an estimate for the execution of the works of art."

The excavations to be made, still amounting to the enormous quantity of 40,000,000 cubic metres at least, are not at all assured, as has been seen under the heading "Impossibilities."

Concerning this passage of M. de Lesseps' letter, it is well to state that, contrary to what many newspapers have published, Mr. Eiffel has only contracted to execute the works of art (bridges and locks), estimated, it is said, at 125,000,000 francs, and no other work, such as earthworks, etc.

Consequently the Eiffel contract in no way guarantees the completion of the canal for February 3, 1890.

Let us add that Messrs. Couvreux and Hersent, the well-known contractors who had at the start signed a formal agreement to dig the whole canal at the contract price of 512,000,000 francs, did not do it. Why expect

that Mr. Eiffel, who has only undertaken to supply the gates for the locks, will complete the whole canal?

On the other hand, if the company really desires to keep the public informed, and to avoid all misunderstanding, it will hasten to publish in its bulletins, first, the terms of the Eiffel contract, then the exact plans and dimensions of its lock-canal, as well as the detailed specification with the price of each part of the work, and finally the amount of all the estimates of the work still to be performed, as it has already done so many times for its tide-level canal.

We await this interesting publication.

In order to obtain from the government the authority to raise a loan of five hundred and sixty-five million francs in lottery bonds, the company made the newspapers repeat every day that French industries were greatly interested in the continuation of the work on the Panama canal.

Outside of the furnishing of the bridges and locks, which will amount, it is said, to one hundred and twenty-five millions, the balance of the loan will serve to pay a few excavations, many general expenses and the interest, which will soon reach one hundred and fifty millions per annum.

To cause the French saving class to lose five hundred and sixty-five millions more, in order to procure one hundred and twenty-five millions of work to their industry, is such a singular idea that it could only have started in the office of the company.

Extract from F. de Lesseps' letter of November 15, 1887. Questions put by the company to the consulting commission.

(a) *Is it possible to establish, in the central mass, a summit pond which would allow of the continuation of the tide-level canal by applying the dredging process to the digging of this part?*

(b) *Will it be possible, when these dispositions are made, to open the maritime communication between the two oceans, without interrupting the work of deepening?*

At a full sitting, the commission unanimously

answered the two questions put to them in the affirmative.

These two questions and the answer, accompanied by the names of Messrs. Daubrée, the Admiral Jurien de la Graviere, Jacquet, Lalanne, Pascal, Voisin Bey, Ruelle, Laroche, Larousse, Boutan and Oppermann made a great impression upon the public; but on a close examination, it is seen that they are not serious and signify nothing whatever.

The consulting committee does unanimously answer: Yes, a pond can be established in the central mass, to continue dredging the tide-level canal; Yes, it will be possible to open the canal to navigation and yet continue to deepen it.

But every one knew that for eighteen years past the Suez Company has deepened and widened its canal without impeding navigation, and is even thinking of doubling its present proportions.

It was therefore unnecessary to disturb for a single moment the above named gentlemen, and to make the 400,000 Panama subscribers wait so long, to give them such information as that.

Here are the only and real questions which the capitalists ask the consulting commission to answer *seriously* and without delay:

First, Can the tide-level canal be achieved ?

Second, How many years will the entire completion of the tide-level canal require ?

Third, How much will this canal cost, all expenses included ?

Fourth, When will the provisional lock-canal be completed, and how much will it cost with a depth of nine metres ?

The answers to these four questions can and must be short, clear and to the point.

We hope the government will be able to obtain these answers which the company obstinately refuses to give to its 400,000 lenders.*

* *Panama and Suez, Paris.*

When it was established, the company was to achieve a superb tide-level canal for six hundred millions, then for one thousand and seventy millions; it now proposes to furnish a *provisional lock-canal* with a depth of 4 metres, 57 centimetres, instead of 9 metres, for the colossal sum of one thousand and six hundred and fifty-four millions.

Let us now see what the company still thinks of lock-canal:

Bulletin, November 15, 1879, page 43: "*I will never give my adhesion, (says M. de Lesseps,) on account of the experience with the Suez Canal, to a project with locks.*"

Bulletin, November 15, 1878, page 46: "The Panama has no locks. The Nicaragua has many: this is why the *intelligent* men of the congress of Paris adopted the Panama."—(F. de Lesseps.)

Mr. Eiffel, the great builder, now so highly praised by the company, was present at the congress and voted against the *intelligent* men.

Bulletin, December 15, 1879, pages 58 and 59: "*An annual traffic of 6,000,000 tons is only possible in a canal capable of allowing fifty ships to pass in one day. It is this necessity which caused the adoption, for the piercing of Suez, of a tide-level canal without locks . . .*"

"An interoceanic canal with a single obstacle on its line, would not satisfy a traffic of 6,000,000 tons."—(Marcius Fontane, manager of the Panama Company.)

How can the company, after these positive statements, now declare that it will admit of a traffic of 7,500,000 tons through a *provisional canal with locks*?

Bulletin, February 1, 1880, page 86: "M. de Lesseps declares that he is in favor of a tide-level canal as adopted by the Paris congress; it is the only *practicable project*, says he, and I will execute it."

According to F. de Lesseps, a *provisional lock-canal* will therefore be impracticable.

Bulletin, April 1, 1886, page 122: "The second difficulty has also disappeared. There is not a man, *jealous of his dignity as engineer, sailor or economist*, who would now dare say that a canal with obstacles is desir-

able."—(Marius Fontane, manager of the Panama Company.)

Contrary to this opinion, Mr. Eiffel, whom the company now praises so highly, was present at the congress and declared that a lock-canal was preferable to a tide-level one.

Bulletin, May 1, 1880, page 156: "M. de Lesseps declares that a canal without obstacles is the only one that can accommodate ocean vessels and the present great navigation."

It must be concluded from this that a temporary canal with obstacles, that is to say locks, will not accommodate the great navigation.

Bulletin, May 15, 1880, page 161: "There are no locks," says M. de Lesseps, "that cope at the present time with the transit of the vessels which go through Suez."

It is necessary to call attention to the fact that when M. de Lesseps spoke in these terms the traffic of Suez only amounted to 3,057,421 tons. If a completed lock-canal 9 metres deep cannot, according to M. de Lesseps in 1880, prove sufficient for a traffic of 3,000,000 tons, how can 7,500,000 tons be carried through Panama with a provisional canal 4 metres, 57 centimetres deep, and with locks?

Bulletin, January 1, 1881, page 298: "It is so superabundantly demonstrated by all studies, that lock-canals cannot accommodate large ships that it is unnecessary for us to return to this subject."

Bulletin, November 1, 1881, page 461: "The demonstration having been made that a canal with obstacles, be it but a single lock, could not give passage to a sufficient number of ships to remunerate the capital employed in its construction."

Bulletin, April 15, 1885, page 1170: "A single lock out of order would be sufficient to arrest all navigation for two months."

Bulletin, January 1, 1886, page 1369: "I answered them that I could not give my attention to a project for a lock-canal, as I considered this system absolutely contrary to the principles of maritime communication be-

tween two seas."—(F. de Lesseps to the Geographical Society.)

Report of the meetings of the congress of 1879, page 649: "M. Marius Fontane, manager of the Panama Company: I vote yes, because the canal with a constant level is the only one that can assure a constant revenue for the capital engaged in the enterprise."

If the lock-canal estimated at five hundred and seventy million francs by the congress could not pay, is it evident that the canal now proposed by the company, a partial canal 4 metres 57 centimetres deep, with many locks and costing one thousand six hundred and fifty-four millions will prove a disastrous affair?

To sum up, M. de Lesseps and his advisers promised us a magnificent tide-level canal nine metres deep, for six hundred millions. They have declared, many and many a time, that a lock-canal entirely achieved, was absolutely contrary to the principles of maritime navigation, that it would not pay its shareholders and that it would be impracticable.

After squandering a thousand millions in unnecessary work, these same men now come forward and say to the French government: Authorize us to borrow five hundred and sixty-five millions more, on lottery bonds, and we will endeavor to furnish, for the one thousand, six hundred and fifty-four millions received by us (see debts of the company), a temporary lock-canal 4 metres 57 centimetres in depth, instead of the 9 metre tide-level canal which we promised to the whole world, during eight years.

From the above we must come to the conclusion that the thousand millions spent up to this date have been badly employed and that they are entirely lost to the French economizers.

Extract from M. de Lesseps' letter of November 15, 1887: "7,500,000 tons at the rate of fifteen francs."

In the Suez Canal, which is at tide-level, M. de Lesseps, notwithstanding the continual protests of the shareholders and of the defence committee, wants to reduce to five francs per ton the ten francs rate stipulated in

the act of concession, under the pretext that this rate is too high; but in the Panama canal, which will be unfinished, provisional and with locks, with a depth of only 4 metres 57 centimetres, the same M. de Lesseps intends to apply a rate of fifteen francs.

How does the Suez management, which is the same for Panama, find bad for the Egyptian canal that which is good for the American one?

Strange mystery!

Extract from M. de Lesseps' letter of November 15, 1837: "In its estimate of the total expenses, the international congress had calculated that the loans would cost five per cent."

The company should not be astonished at having to pay a high price for the money it borrows, as until 1883 it promised to supply in 1888 and even in 1887 a tide-level canal completely finished for six hundred millions, all expenses included.

As the affair appeared a good one, at that price, the public gladly loaned its money at five per cent.

But, from 1885, the company asks one thousand and seventy millions for the same canal. The investment becoming doubtful, the capitalists asked ten per cent.

The company now speaks of executing a partial, provisional, impracticable lock-canal that will not pay, the cost of which will reach the fabulous amount of one thousand, six hundred and fifty-four millions at least.

Under such conditions, the affair becoming disastrous, no one will want to give a cent and it will not be more than fair.

The most surprising part of all this is the astonishment of the company.

Extract from M. F. de Lesseps' letter of November 15, 1837:

"Grand total of the cost of the canal on the opening day in 1890 everything included: one thousand, five hundred million francs."

The following are the sums received:

600,000 shares	at	500 francs,	300,000,000 fr.
250,000 5 per cent. bonds	"	437.50 "	109,375,000 fr.
600,000 3	"	285 "	171,000,000 fr.
477,000 4	"	333 "	158,969,871 fr.
458,802 6	"	450 "	206,460,900 fr.
256,887 6	"	440 "	113,910,280 fr.
Proceeds of temporary investments and revenue of the railroad, at least			30,000,000 fr.
Total.....			1,089,716,051 fr.
Loan now solicited.....			565,000,000 fr.
Grand total.....			1,654,716,051 fr.

This total of expenses made or to be made, will correspond to a reimbursable capital of about two thousand, five hundred millions.

The company is therefore making a great mistake in giving only one thousand, five hundred millions.

MAXIMUM RECEIPTS AND MINIMUM EXPENSES AFTER THE OPENING OF THE LOCK-CANAL.

Extract from the letter of November 15, 1887.

"The receipts alone from the toll for transit of the 7,500,000 tons: 112,500,000 francs."

As was already seen in the *Bulletin* of May 15, 1880, page 161, a lock-canal, even a definitive one, would prove insufficient for a transit of three million tons; and, supposing that, contrary to probabilities, the Panama managers (who are at the same time the Suez managers), maintain the toll at fifteen francs at Panama, whilst insisting upon reducing it to five francs at Suez, and obtain the following figures:

RECEIPTS.

A maximum of 8,000,000 tons at 15 francs..... 45,000,000 fr.

EXPENSES.

Management, as per letter of Nov. 15, 1887..... 5,000,000 fr.

Unforeseen expenses..... 4,000,000 fr.

Carried forward..... 9,000,000 fr.

Brought forward.....	9,000,000 fr.
Maintenance, according to the congress.....	6,500,000 fr.
5 per cent. of the gross receipts to the Colombian government.....	2,250,000 fr.

According to Inventory of '86.	Commissions.....	3,000,000 fr.
	Interest on the 600,000 shares.....	15,000,000 fr.
	Interest on 5 per cent. bonds.....	6,227,000 fr.
	Sinking Fund.....	180,500 fr.
	Interest on 4 per cent. bonds.....	7,314,620 fr.
	Sinking Fund.....	422,500 fr.
	Interest on 3 per cent. bonds.....	8,975,580 fr.
	Sinking Fund.....	1,104,500 fr.
	Interest on 5 per cent. bonds, 1st series....	13,764,406 fr.
	Sinking Fund.....	6,000,000 fr.
	Interest on 6 per cent. bonds, 2d series....	7,766,610 fr.
	Sinking Fund.....	3,000,000 fr.

Interest and Sinking Fund of the 565,000,000 loan
now applied for..... 56,500,000 fr.

Total of expenses, interest and sinking fund, 147,005,716 fr.

These are exact, official and undeniable figures, whereas those given by the company are incorrect and fanciful. For instance, the company counts upon a commission of 6 per cent. for the handling of its securities, whereas it costs from 8 to 10 per cent.

On the other hand, any discussion at the present time concerning the receipts is a waste of time, as the canal, with only a depth of 4 metres, 57 centimetres as projected, will not allow of the passage of a single ship. (See estimated traffic.) Therefore, no depth, no traffic, no receipts, no revenue, but on the other hand the 147,000,000 francs of expenses detailed above will have to be paid every year.

SINGULAR PRETENSIONS OF M. DE LESSEPS.

Extract from M. de Lesseps' letter of November 15, 1887:

"It now rests entirely upon the government of the Republic . . . to definitely assure the performance of our programme."

To speak as above, has the company forgotten its bold and manly declarations of former times? Here are some of them:

Bulletin, March 15, 1880, page 113: M. F. de Lesseps declared that the canal of the Isthmus of Panama can and should be constructed, and he added that he staked his reputation, past and future, on the success of the enterprise.—(M. de Lesseps to the Geographical Society of New York.)

Bulletin, June 15, 1880, page 193: "M. F. de Lesseps declared that he had accepted the direction of the cutting of the Isthmus, but that he had assumed the entire responsibility, as becomes a general-in-chief."

"When I was still a young man in Egypt, that great man Mehemet Ali, gave me this advice which I have always followed: '*M. de Lesseps, remember that when two men put themselves at the head of an enterprise, there is always one too many.*'"—(F. de Lesseps at Amiens.)

Bulletin, April 15, 1885, page 1190: "It must be said that the canal is finished."—(Letter from Victor de Lesseps to his father, F. de Lesseps.)

Bulletin, July 15, 1886, page 1558: "I am put off. I accept no adjournment. Faithful to my past, when persons endeavor to stop me, I go straight ahead, certainly not alone, but with 350,000 Frenchmen sharing my patriotic confidence."—(Letter from F. de Lesseps to the shareholders and correspondents of the company, after the petition made in 1885 to the Government for permission to raise a loan of six hundred millions on lottery bonds, which petition was withdrawn because the company refused to exhibit its contracts.)

From all the citations which appear in this work, it is evident that the company is alone obliged to finish the canal and not the Government.

There yet remain over 100,000,000 cubic metres to remove, the derivation ports and locks to make. In a word sufficient for at least three thousand million francs of work.

CONTRACTORS.

Extract from a letter of date November 15, 1887 : "I hold subject to your orders all the documents and contracts."

Bulletin, February 1, 1881, page 315: "Acceptation by Messrs. Couvreux and Hersent of the contract for the total work on a revised specification of five hundred and twelve millions.—(General Meeting, January 31, 1881.)

Letter from F. de Lesseps to the Minister of the Interior, dated May 27, 1885:

"The installation along the whole line, from one ocean to the other, of twenty contractors cutting the Isthmus at their risk and peril."

Bulletin, August 1, 1885, page 1259: "The contracts signed with two contractors who have undertaken to hand over a completed canal, cut to its floor, enable us to give the expense of finishing the work."—(Meeting of July 29, 1885.)

All the bulletins are full of names of many contractors, but it is unnecessary to cite them all.

On May 27, 1885, the company which refused to show its contracts, now places them at the disposal of the ministers.

If the three series of contractors cited above had kept all their engagements, the company would have been able to make three canals instead of one.

Bulletin, September 1, 1879: Circular to the correspondents of the Universal Canal Company, to the founders and the subscribers: "The issue of 800,000 shares which took place in Europe and America on April 7th and 8th, 1879, has not been covered. . . . The arguments of the opposition can be summed up as follows: on one hand figures were presented of exaggerated expenses and of insufficient receipts in order to show that the speculation would be a bad one. . . . To the first argument, the able contractor, Mr. Couvreux, and his partners, . . . have agreed to take charge of its execution at the company's orders or on contract."—(F. de Lesseps.)

Why did the company cancel this contract, signed with rich contractors, and which absolutely guaranteed the entire execution of the canal for five hundred and twelve millions, whether the contracting firm gained or lost, as the report informed the meeting on January 31, 1888 ?

Why did it, furthermore, pay these contractors an indemnity of 1,200,000 francs ?

That is the question !

It is evident that these contracts were not of a serious nature since the canal is not made, although not six hundred millions but a thousand millions have been already spent.

Report of the meetings of the congress of 1879, page 639: "At the preceding sessions, our honorable president (M. F. de Lesseps) said that, in this affair, the assistance of the government should not be resorted to and that we must call on the public only."

Bulletin, February 15, 1881, page 324: "The French government has declared over and over again that, officially, France has no interest in the canal."

Bulletin, August 1, 1882: "The American public was pleased to learn that in the same report, M. de Lesseps reiterated the assurance that the company had *never asked for the assistance of the French government, as had been falsely announced, and which would have wounded the feelings of the Americans.*"

Bulletin, July 17, 1884: "*For my part, I desire to declare in the most positive manner that the Panama Canal Company will carry on and finish its work without the assistance of any government whatsoever, this being a purely private enterprise.*"—(F. de Lesseps.)

After making such formal and solemn pledges, how can the company now ask the assistance of the French government ?

Bulletin, April 1, 1880, page 137: Message of Mr. Hayes, President of the United States: "The policy of this country is for a canal under *American control. The United States could not consent to leave this control to any European power. . . . No European power can*

step in for such protection without adopting measures which the United States would consider totally inadmissible."

Bulletin, November 1, 1881, page 457: Circular of Mr. Blaine, Assistant Secretary of State of the United States:

"The United States would consider an unwarrantable interference any step taken by European governments with a view of giving a supplementary guarantee to an enterprise in which the local and general interests of America must take precedence over those of all other countries."

Bulletin, December 1, 1881, page 479: Speech of Mr. G. Maney, Minister of the United States to the President of the United States of Colombia: "America for the Americans."

Bulletin, December 15, 1881, page 482: Message of President Arthur:

"Meanwhile, the United States of Colombia asked the European powers to guarantee on their part the neutrality of the canal, which was in direct opposition to the rights of America, which is the sole warranter of the integrity of Colombia and of the canal. . . .

"My predecessor had thought it his duty to submit to the European powers the reasons which rendered our guarantee indispensable, for which reason the interposition of any foreign guarantee whatsoever might be regarded as a superfluous and unfriendly act."

It is unnecessary to insist upon the importance of these citations. It is evident that any intervention whatever in the affairs of the company would surely bring about complications with the United States of America.

Extract from the letter of November 15, 1887: "In view of the unqualified and stubborn animosity of adversaries, whom the liberality of our laws protect. . . ."

The complaints of the company are absolutely groundless, but they prove that it needs to excuse its incapacity by accusing somebody.

Where are these threatening opponents the company

speaks of, and how can it complain after publishing the following words in the *Bulletin*, of September 15, 1884, page 1067?

"I love opposition. Adversaries are monitors who cost nothing."—(Ferdinand de Lesseps.)

Now, although the company has devoured a thousand millions without digging the proposed canal, not a single important paper attacks it; it is true that the press has nearly ceased praising and applauding, but this silence alone frightens the company.

The company begins to fear the complaints and re-creminations of its 400,000 unfortunate subscribers.

It is the immense responsibility assumed during the last eight years which gives it the mania of persecution.

At the general meetings, the company does not allow the making of a single remark, and any shareholder who is daring enough to stammer a word is immediately hooted and hustled like a traitor.

At the congress of 1879, the Americans, who are a practical people, declared that after ten years of studies on the Isthmus, they had recognized that a tide-level canal between Colon and Panama was impracticable.

At the same congress, nearly all the engineers, among them Mr. Levalley, a friend of M. De Lesseps, and Mr. Eiffel, the celebrated contractor, were opposed to a tide-level canal, frightened as they were by the unconquerable difficulties, such as the deep cutting of the Culebra, the floodings of the uncontrollable Chagres River, the bottomless marshes of Colon and the unhealthfulness of the climate.

The company disregarded these wise counsels, emanating from competent men, and now it accuses invisible enemies so as not to admit that it has failed.

Let it be well understood that the real and only implacable enemy of the enterprise is the company itself, which has always promised much but has never done anything.

Letter of November 15, 1887.

On the whole, the letter written on November 15, 1887, by M. F. de Lesseps, and addressed to the Prime Minis-

ter, is cleverly written; but it is a jumble of *reticencés*, of obscure phrases and erroneous figures which throw no light upon the Panama canal, and which cannot for a moment stand discussion.

It is not upon such data that a government can authorize a company that has already spent so much money, to borrow five hundred and sixty-five millions more.

Usually, one says: the past speaks for the future. The company has squandered a thousand millions in unnecessary work; it will peaceably continue to borrow much and to perform little and await a European complication or some unforeseen event, such, for instance, as the death of its president, M. de Lesseps.

The Colombian government has gratuitously given 500,000 hectares* of ground to the company, which makes a great show of this fact, whenever it needs money.

Then how much are the 500,000 hectares of ground worth, of which the company speaks so much?

The United States of Colombia cover an area of 133,000,000 hectares, or about three times the surface of France. The population amounts to about 3,000,000 inhabitants, who cultivate less than 3,000,000 hectares.

The 130,000,000 uncultivated hectares are called free lands, which means, lands at the disposal of the first occupier who is willing to have them cultivated, and to whom, according to law, they regularly belong after five years. Therefore, any one can take possession of the said 130,000,000 hectares, and the government will even offer, as a bonus, to pay his travelling expenses from Colon or Panama to his destination. (For further information, read the *Bulletin* of September 15, 1880, page 244 and following pages.)

The company's 500,000 hectares are therefore worth absolutely nothing.

"Last year we asked why the company gave one mill-

* One hectare equals 2.471143 acres.

ion five hundred thousand francs every year to an American committee.

"Since the company continues to remain silent, we shall inform our readers. We have discovered (*Bulletin*, February 1, 1881, page 316), that the New York Committee represented the interests of the company in the United States of America, in all that concerns the neutrality of the canal.

"The report presented to the second general meeting (*Bulletin* of March 4, 1881), further informed us that this famous committee costs the company twelve million francs, paid in seven installments. Mr. Thompson, ex-Secretary of the United States Navy, is president of the said committee.

"It is really distressing to think that this enormous sum, amassed with so much trouble by thousands of Frenchmen, should be given to four or five Americans for the performance of such little work.

"At the inventory of June, 1884, the company made an entry of ten million, two hundred and sixty-seven thousand, eight hundred and forty-one francs commissions for the annual handling of the securities. In 1885, a sum nearly equal appears in the accounts.

"In May, 1887, we protested against this exorbitant expense, and in the following statement presented at the meeting of July 21 last, these expenses suddenly fell to two million, eight hundred and forty-four thousand, one hundred and twenty-one francs, although the number of securities had been nearly doubled."*

It is evident that criticism is good, when it can cause a saving of about seven millions a year on one item alone.

At the statement presented to the meeting of July 21, 1887, the company estimates the value of its building, No. 46 Rue Caumartin, at one million, eight hundred and sixty-five thousand, six hundred and twenty-five francs, and, contrary to general principles, the older the building gets and the more it becomes

* *Suez and Panama, Paris.*

deteriorated, the greater the price set upon it by the company. (See this extraordinary fact on the statements.)

Shareholders! Go, see, appraise, and tell me whether that dirty, narrow, low hovel, built of bad stone, is worth two millions. This structure, pompously called "mansion," has no value. The ground would sell for hardly a quarter of the estimated amount, because it is narrow (16 metres front) and all in depth.

That, good capitalists, is the way in which the company throws your savings to the winds. On seeing such prodigalities, one immediately recognizes that the managers do not pay for their extravagance out of their own pockets.

The intelligent public gazes calmly at the inordinate variations in the rise and fall of the Panama securities. It is certainly not the passionate speculation which exists on these securities which will finish the canal. The announcement of the actual excavation of four to five million cubic metres per month would be of more value to the real shareholders than a rise of 100 francs per share in a single day.

The shares issued at:

500 francs are worth	320,	loss	180 fr.
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The bonds

3% issued at 285 fr. are worth	170,	loss	115 fr.
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4% issued at 333 fr. are worth	200,	loss	133 fr.
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5% issued at 437 fr. are worth	280,	loss	157 fr.
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6% issued at 450 fr. are worth	370,	loss	80 fr.
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This is the result of the vain promises of M. de Lesseps.

While the Panama shareholders and bondholders are mentally speculating day and night whether the canal will be accomplished or not, the fortunate organizers spend the time counting the millions they have realized on the affair.

As a fact, these gentlemen have probably received at least fifty-four millions from the 9,000 parts of founders' shares which they must have sold at a minimum average of 6,000 francs each, and this without disbursing a

cent, seeing that the company paid all their expenses and advances estimated at two millions. (See second general meeting, March 3, 1881.)

Some persons pretend that France will lose its prestige in America if the Panama canal is not completed. This theory may lead one very far. If the State were obliged to see to the favorable accomplishment of the enterprises entered into abroad by its citizens, the whole capital of the country would prove insufficient. No, fortunately, the prestige of France is not bound to the very uncertain fortunes of a private corporation like that of the Panama canal.

In this purely private affair, M. de Lesseps, his board of directors and his consulting commission, who promised to establish a tide-level canal for six hundred millions, then for one thousand and seventy millions, will be the only ones that will have to render accounts to the 400,000 fanatics who will have followed them blindly.

If the government authorizes a first issue of lottery bonds, it will be caught as in a cog wheel, and will be forced to complete the canal, cost what it may.

After spending the first six hundred millions, it would have been preferable to stop there; the company willed otherwise. It is yet better to lose a thousand millions than two or three thousand millions.

This is the truth.

La Estrella de Panama, a newspaper often mentioned in the company's *Bulletins* published, on November 5th, last, a report presented in 1887 to the Colombian Minister of Finance by Mr. Nicolas Tanco Armero, inspector of the Panama Railroad and agent of the Colombian government, to the Universal Interoceanic Canal Company. This report confirms what we have said, in every respect, and is even more pessimistic than ourselves. Here are a few extracts from it:

"The total excavations to make for the canal and the derivations amounted to 161,000,000 cubic metres, and 127,000,000 cubic metres still remained undone in August last It may be assured that until now eight-tenths of the extractions were vegetable earth At

Colon and Gatun there are only calcareous deposits, brought there by the Chagres River, but the Mamei, Gorgona, Corrozal and Paraiso sections are of rocky formation and the Culebra Mountain is hard rock According to the specifications of an engineer, it will cost four hundred and seventy-one millions to regulate the Chagres River, including the Gamboa dam, and four hundred and seventy-one millions to remove the 127,000,000 cubic metres, making a total of over four thousand millions The truth is that all the work-yards are nearly deserted Let not the company say that funds have been wanting, for it has been amply supplied, but it has not used them properly At present, no one can form an idea, however remote, of the date upon which the canal will be terminated The Canal Company paid twelve hundred and fifty francs for each share of the railroad, when these shares were quoted at barely four hundred francs The Railroad Company evidently made sixty-eight millions there, of which half should belong to the United States of Colombia, according to the terms of the concession; but, up to now, the government has not received a cent. . . . The Canal Company should pay this amount according to the deed of concession.

"Equity and justice are universal laws or principles, and, sooner or later, one company or another will have to satisfy this sacred obligation to our government The financial situation of the enterprise is extremely serious, embarrassing and alarming One thing is evident, and that is that, with the system which has been followed and the manner in which the work progresses, the canal will not be completed in ten years even admitting the elimination of very necessary work and the construction of a canal with sluices and dams it is certain that the canal will not be opened even in 1892, *the year in which the concession ceases, and the government should be prepared for this contingency.*"

This report has been reproduced by the *New York Herald* and many other foreign papers. Why does the French Press, with the exception of the *Economiste*

Français of December 3d last, keep silent regarding this crushing document, to which the company must reply without delay !

On May 27, 1885, the Panama Canal Company asked, from the French government, permission to borrow six hundred millions on lottery bonds. This petition was not presented to the House of Deputies until June, 1886, when a commission of eleven members was appointed; ten of them opposed to granting the requested authorization.

At that time, the Honorable M. Sadi Carnot, Minister of Finance, being entirely opposed to the company's request, refused to support it, as can be seen by his declaration to the commission (see the *Temps* of July 4, 1886). "In reply to the formal questions of various members of the commission, M. Sadi Carnot declared that for his part, he would not go to the tribune to *support the projected law, because it would give the affair a guarantee which it should not receive.*"

"M. Salis then asked why, in such case, the commission should assume a responsibility which the government refuses to assume.

"In its letter of May 27, 1885, to the Minister of the Interior, the company promised to complete a tide-level canal with a loan of six hundred millions of lottery bonds.

"After squandering nearly five hundred millions since then, the company asks for five hundred and sixty-five millions more to furnish a temporary lock-canal, four and a half metres deep, instead of nine metres.

"We feel satisfied that M. Sadi Carnot, President of the Republic, will be still more prudent than M. Sadi Carnot, Minister of Finance, and that he will use all his influence to prevent France from granting this year, to a private and universal company, a support which would not only make our country lose the five hundred and sixty-five millions asked, but would also bring about a conflict with the United States of America, as is proven by the documents published by the company

itself and reproduced in this work under the heading: 'Neutrality of the Canal and the United States of America.' "

To the company's unexpected letter, the Ministers of the Republic, will, no doubt, reply as follows:

"Your letter of November 15, 1887, is but a second edition of the one dated May 27, 1885, with a few variations.

"For instance, you change the year of the inauguration (1890 instead of 1888).

"You were then to make a tide-level canal and finish it entirely for one thousand and seventy millions; you now propose, for one thousand, six hundred and fifty-four millions, to furnish a partial, temporary and impracticable canal that cannot pay.

"You are now asking for another loan of five hundred and sixty-five millions to continue the temporary lock-canal, when this sum, added to the funds already collected by you, makes one thousand, six hundred and fifty-four millions, a total sufficient, according to your statements, to dig and terminate two canals, one at tide-level and the other with locks.

"You are publishing at present an unanimous opinion of your superior consulting commission; unfortunately, this document means absolutely nothing, as it neither indicates the cost of the canal nor the date of its inauguration, and is supported by no demonstrative argument.

"Can your consulting commission be, perchance, the same one that has, for seven years, approved by its silence your numerous fantastic estimates and your eight different inaugurations?

"In your letter of May 27, 1885, to the Minister of the Interior, you estimated the traffic of your tide-level canal at 4,000,000 tons; on November 15, 1887, in your letter to the Prime Minister, you speak of 7,500,000 tons for a temporary lock-canal, after declaring on May 15, 1880, that 3,000,000 tons could not pass through such a canal.

"Two and a half years ago, you affirmed that six hun-

dred millions would be sufficient to complete a tide-level canal. After spending nearly five hundred millions since that date (May 27, 1885) you ask six hundred millions more, making eleven hundred millions to furnish only a provisional lock-canal.

"You now offer to show your contracts, although you refused to do so on July 9, 1886, in the following heroic terms: *I am put off, I will accept no adjournment. Faithful to my past, when persons endeavor to stop me, I keep straight ahead! Certainly not alone, but with 350,000 Frenchmen sharing my patriotic confidence!*

"Being no doubt abandoned by your 350,000 adherents and forgetting your noble words of 1886, you now implore a second time for the intervention of the state, adding that it alone must complete the canal.

"During six years you declared to the world, in the most positive manner, that your company was universal, that it would finish the work without the assistance of any government whatever, and that France had no official connection with the canal.

"After such declarations, you should, like good patriots, cease to solicit with such persistence our intervention, which would certainly bring on a conflict with our sister, the great American Republic.

"In 1879 and 1880, you affirmed that a completed lock-canal costing five hundred and seventy millions would prove a disastrous affair: how can you now declare that a provisional lock-canal costing one thousand, six hundred and fifty-four millions will be remunerative?

"As a guarantee of the completion of the canal, you make more promises, but, for seven years, you have made so many and such fine ones, you have announced so many inaugurations which have never taken place, that it is impossible to believe in that of February 3, 1890.

"Finally, we cannot authorize you to borrow five hundred and sixty-five millions on lottery bonds to execute work in the United States of Colombia, when we refuse this favor for enterprises in France, where our unfortunate population is already suffering so much from the industrial, commercial and agricultural crisis.

"Now, you must admit that the capitalists who continue to supply you with funds after all the contradictions, inexact figures and the fantastic plans and estimates which you have published, are really too good and too credulous; admit, also, that the French government and the speculators have nothing to do with your mortifications and your unsuccessfulness, for which you alone are responsible."

If, notwithstanding the publication of these numerous official documents, capitalists continue to delude themselves, to be contented with ambiguous phrases and vague but sonorous promises, and persist in bringing their funds to Messrs. de Lesseps, father and son, who are not engineers, and to the managers, let it be at their own risk and peril, but the government must not encourage all these fanatics to give their money by the allurements of large prizes.

In telling the truth and nothing but the truth, concerning the Panama canal, I feel that I am acting as a good citizen.

For seven years past, the French press praises and upholds the Panama Canal Company and constantly refuses to publish any other information than that furnished by the company itself.

It seems to me that the time has now come when the truth should be made known concerning this unfortunate enterprise, and I hope that the newspapers that have the interest of the public at heart will make it their duty to reproduce part or all of this work, which is established from undeniable official documents.

Seeing that union is strength, shareholders, large and small, should go together to the next meeting to demand from the Board of Directors clear and distinct answers to the different points of my work, and especially the following:

- Estimated cost of the canal;
- Estimated amount of traffic;
- Numerous different dates of inauguration;
- Consulting commission;
- Lock-canal;

Receipts and expenses;

Contractors (the Couvreux and Hersent contract);

Neutrality of the canal.

Ask, also, why the company has not published every month, the amount of excavations made since August 1887.

Demand furthermore, an exact specification, with full details, of the work which the company intends to perform to complete the canal.

If you are only given vague answers, hold private meetings to force the management to give you precise information, because, after giving six hundred millions, then a thousand millions, to make a tide-level canal, you cannot pay one thousand, six hundred and fifty-four millions for a lock-canal which will be impracticable.

The above translations from *Panama and Suez* will give additional light on M. de Lesseps impossible canal.

EXCAVATIONS.

SECTIONS.	UNDER WATER.			ABOVE WATER.		
	Earth.	Hard soil capable of being dredged.	Hard rocks.	Earth.	Rocks of mean hardness.	Hard rocks.
	Cubic metres.	Cubic metres.	Cubic metres.	Cubic metres.	Cubic metres.	Cubic metres.
Atlantic Section ..	9 383,000.	830,000	8,775,000	28,710,000	825,000	8,060,000
Culebra Section ..	.....	.....	2,081,000	2,167,000	.....	28,199,000
Pacific Section ..	2,675,000	.....	877,000	1,478,000	.....	1,475,000
Total	12,005,000	800,000	6,786,000	27,350,000	825,000	27,784,000

Grand total, 75,000,000 cubic metres,

GENERAL ESTIMATE OF COST.

First.—Excavations (sidings included).

(a) Excavations above water.

	Francs.
Earth, 27,350,000 c. m. at 2.50 francs	68,760,000
Rocks of mean hardness, 825,000 c. m. at 7.00 francs	5,775,000
Carried forward,	74,535,000

Brought forward.....	74,535,000
Hard rocks, 27,734,000 c. m. at 12.00 francs.....	332,808,000
Excavation of rocks, where pumping is necessary, 6,409,000 c. m. at 18.00 francs.....	115,362,000
(b) Dredging and excavations under water.	
Mud and alluvial soil, 12,005,000 c. m. at 2.50 francs	30,500,000
Hard soil capable of being dredged 300,000 c. m. at 12.00 francs	3,600,000
Excavation of rocks under water, 377,000 c. m. at 35.00 francs.....	13,195,000
	<hr/> 570,000,000
Second.—Dam of Gamboa; length 1,600 metres, maximum height 40 metres.....	100,000,000
Third.—Channels for the regulated flow of the Chagres, and for the Obispo and Trinidad riv- ers	75,000,000
Fourth.—Tide lock on the Pacific side.....	12,000,000
Fifth.—Breakwater in the Bay of Limon.....	10,000,000
	<hr/> 767,000,000
Sixth.—Add for contingencies(10 p. c.).....	76,000,000
	<hr/> 843,000,000
Total.....	<hr/> 843,000,000
Or at five francs to the dollar.....	\$168,600,000

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